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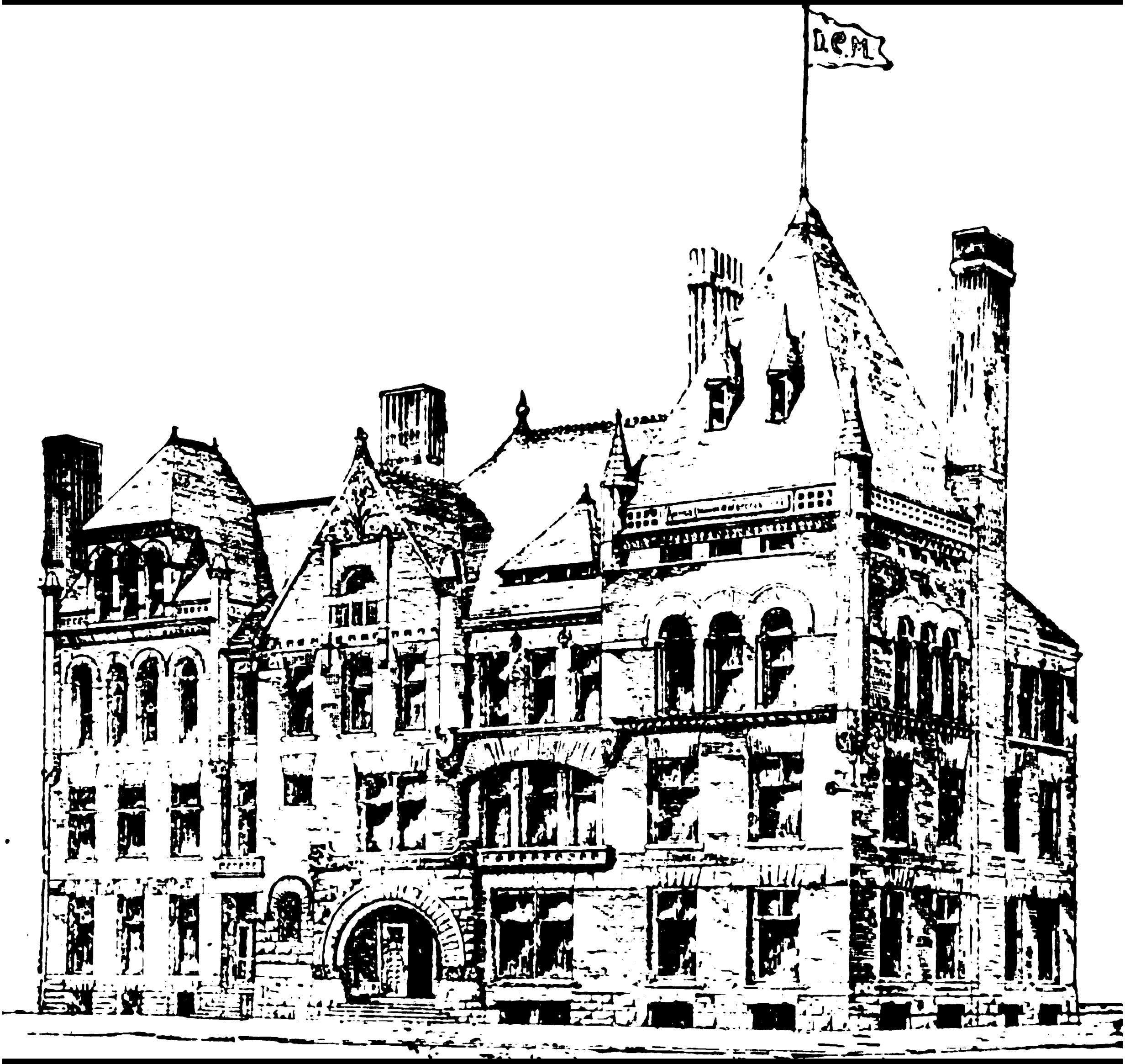

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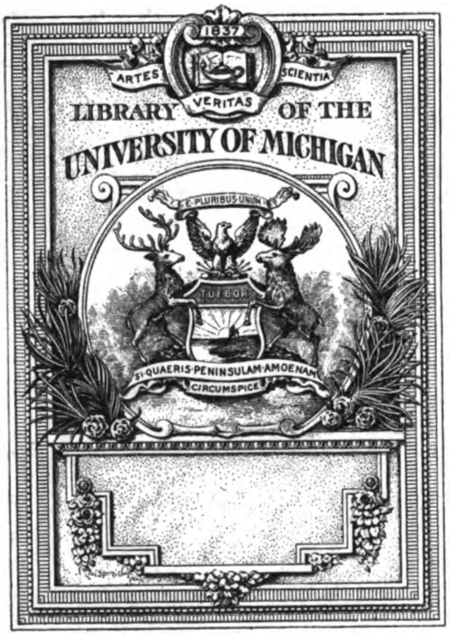
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ORIGINAL CONTRIBUTIONS.

MEMOIRS.

HAY FEVER: A SUCCESSFUL TREATMENT FOUNDED ON A NEW THEORY.*

By W. F. STRANGWAYS, M. D., Flint, Michigan.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

During the last eighty years many eminent physicians have proposed many theories to explain, and many remedies to cure, hay fever. In the hands of the general profession it has been difficult to disprove the theories, but very easy to determine the inefficiency of the cures. Many earnest, able investigators have made cures in their own practice, and with confidence they have given to us their treatments, but unfortunately where they found much virtue we found none.

Recognizing these facts it is with much diffidence I present this paper; yet I am convinced I am on the right track, and if I fail to give the whole of the true explanation I shall suggest lines of investigation, which, in the wider field of the whole profession, will lead to a full solution of this puzzling disease. This conviction, and it alone, has led me to offer my paper this year instead of waiting until time and a much wider experience approved or disapproved it.

To prevent misunderstandings I wish to say I think the term, hay fever, is used too promiscuously by many writers. My observation teaches me that there is a difference between hay fever and the coryza with somewhat similiar subjective symptoms which is produced by many forms of irritation. Exposures to irritating dusts will cause stenosis, sneezing and a watery discharge which later on becomes mucopurulent. If we examine the nares we will find an inflammatory action, whereas in hay fever it is not inflammatory; it is a vasomotor paresis, and is easily diagnosed from the inflammatory coryza by the bluish-gray swollen appearance of the inferior turbinateds and by the fact that the first train of symptoms continues through to the end.

That you may easily grasp my ideas and follow my reasoning I will first state the commonly accepted theory of hay fever and some of the reasons why

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*Read before the Detroit Medical and Library Association.

I cannot accept it; then give the theory I propose and reasons for accepting it, with the history of but four cases.

The commonly accepted theory is that hay fever is due to the irritation caused by the impact of pollen in the nares of a person of the neurotic habit with some pathological condition of the upper air passages. A few authors object to certain parts of this theory, yet the tendency of our whole literature on the subject is, either by inference or direct statement, to support it. I admit that as a rule we have pollen, but I deny that it is the impact of pollen or that it is an irritation caused by it that is the exciting cause. The various pollens that cause hay fever are very light and never found in comparatively large quantities. The irritation caused by their impact cannot be anything like so great as that caused by ordinary dusts yet hay fever patients can live in clouds of dust without having hay fever.

Blakley says that the largest number of pollen grains deposited in one day on his contrivance was 880, and that is, as far as I know, the largest number found by any investigator. From this we can calculate that rarely do 1,000 grains of pollen enter the nares in a day, which would be but one grain for every twenty-five inspirations.

Were there one hundred times as many their impact could not cause sufficient irritation to excite a coryza. Again, if it were a mechanical irritation it would be hard to explain why rose pollen should cause the disease in one man in which ragweed pollen had no evil effect, while his neighbor uninfluenced by rose pollen was attacked when exposed to ragweed pollen. Still further, when hay fever attacks a man he ceases to breathe through the nares on account of the partial or complete stenosis, consequently the pollen is not drawn into the nares, yet the hay fever continues.

Bosworth says the chief pathological lesions predisposing to hay fever are the obstructive, that is, those lesions which force the patient to habitually breathe through the mouth when sleeping or taking active exercise. If hay fever were due to the impact of pollen such patients should be less prone to the disease.

It is true that this objection is met by the statement that such nares are much more sensitive, hence need far less irritation to produce a coryza. But this counterstatement loses much of its force when we remember we are constantly examining exquisitively sensitive nares where there is no hay fever although the patients have the neurotic habit and are in an atmosphere laden with pollen. All its force dissappears when we examine the reports of cases treated by the advocates of the sensitive areas and find that the destruction of these sensitive areas cures but a small percentage of cases. Undoubtedly sensitive areas and obstructive lesions make the patient less able to combat the evil influence of certain pollens and the cure of these lesions often produces enough change in the circulation, secretions and drainage of the nares to save the sufferer from future attacks. I do not think that these lesions are absolutely necessary, for in over fifty per cent. of the cases the attacks continue after we remove all such lesions, while many find their attacks worse after our best rhinologists have done all that modern science will do to restore the nasal chambers to a healthy condition. Disease of the nares tends to cause a sluggish circulation and altered secretions which lessen our power of resistance while it increases the force of attack. I shall refer to this again when discussing my own theory and will now refer to the third link in the commonly accepted theory, the neurotic habit.

It is supposed to be necessary because a few patients are said to have had attacks of hay fever caused by mental impressions while others have their attacks begin at the same hour of the same day each year. The first is true of almost all diseases where there are no organic changes and the last is easily understood when we remember that the patients are exposed to daily increasing quantities of pollen before the attack begins. Up to the hour for attack the inhibitory influence of the mind retards the attack but when the expected time arrives the very opposite mental influence obtains. Hay fever may be a neurosis but I am convinced the neurotic habit has but little to do as a predisposing cause. Were it otherwise, treatment directed to the cure of this habit would relieve a large percentage of cases, yet we know we can devise no treatment to build up the nervous system which has any material influence on the severity or certainty of return of the attacks. We know that the hyperesthetic neurotic habit is much more common with females, yet more males are subject to hay fever. We also know that only a very small percentage of our people with the neurotic habit have hay fever although they have chronic rhinitis of the obstructive character and are exposed to pollen laden air.

These are only negative objections but there is a strong positive one which is that we have many cases of hay fever where we have no neurotic habit. I am sorry I cannot state positively how many of the seventeen cases I treated this fall were free from all neurotic symptoms and history not only in themselves but as far as they knew in their families for three generations. I do know that at least eight were entirely free, while six had no neurotic tendencies that I noted; but my record of their histories is too limited to give a decided opinion. The other three were neurotics.

For ten years or more I have been a victim of hay fever, and if any of you gentlemen still think the neurotic habit is a requisite when I have finished reading my paper I shall be glad to have you find a single symptom of such a conditional tendency in me or the history of it in my children, my ten brothers and sisters, my parents and their fourteen brothers and sisters, or in my grandparents.

A theory against which I can raise so many strong objections is to say the least so weak that we may well spend the time necessary to examine one offered in place of it; which claims that hay fever is caused by a toxine generated from pollen by a fermentive process in an alkaline solution. To avoid confusion I state my theory in as few words as possible. It is probable this toxine may be generated from other substances than pollen. In fact pollen may simply supply the microbe that generates the toxine from substances belonging to the nares of hay fever subjects, and it is quite possible that a few other substances than pollen may convey such a microbe into the nares. This toxine produces a vasomotor paresis with disordered secretions, and these disordered secretions irritate; causing the paroxysms of sneezing. Some pathological lesions of the nose predispose to hay fever by causing altered secretions suitable for the fermentative process, and by causing a sluggish, poor circulation, thus lessening the normal inhibitory powers.

Acid solutions used as douches tend to stop this fermentative process and the free internal administration of muriatic acid renders the system more immune to the toxine, possibly by causing an increased production of certain constituents of the blood, but more probably by lessening the alkalinity of the blood as well as that of the nasal secretions.

Pepper is an active irritant of the nasal membrane, whether it touches it by the gentlest contact or most forcible impact, just as mustard irritates the skin. At first I thought pollen might contain similar irritating properties and began to investigate along that line. I found it very difficult to obtain ragweed pollen in sufficient quantities for experiment, and until I had rendered myself immune to it I dare not handle it, hence my first experiments were with other pollens, especially that of the cucurbita. Of the many experiments I made with different pollens I shall refer to only two or three.

In test-tubes I placed these solutions: (1) one of pure water; (2) one with two minims of acetic acid to one ounce of water, and (3) one with five grains of bicarbonate of soda to one ounce of water. On these solutions I dropped pollen. In the solutions of pure water and water with acid the pollen sank rapidly, while only a part of the pollen dropped on the alkaline solution sank and it sank slowly. Around the pollen in the acid solution I noticed a decided grayish exudate form quickly and the yellow color disappeared. Around the pollen in the pure water a similar exudate formed in smaller quantities and more slowly, while but little formed in the alkaline solution. Under the microscope I found a small amount of amorphous translucent material that had escaped from the pollen in the alkaline solution. From the pollen in the pure water considerably more was found, while in the acid solution there was a large amount and it was arranged in rods or threads or as some observers say mycelium-like bodies. At first I thought these might be the minute organisms referred to by **Helmholtz** as the cause of hay fever and that they would indicate a lack of alkaline constituents in the nasal secretions but many tests indicated as great alkalinity as normal if not more. Then it occurred to me that the rapid exosmosis in the acid solutions might mean a rapid disorganization of the pollen and prevention of its evil influence. This seemed the more probable from three facts: First, that even weak acid solutions stop the movements of spermatozoa which have a similar function to pollen; second, that hay fever is more common in men than women though woman's blood is less alkaline than man's; third, that for years we had used alkaline solutions in the nares of hay fever patients with little or no benefit.

It seemed quite possible that in pollen there were certain protoplasmic elements which in warm alkaline solutions changed into the toxine causing hay fever and that acid solutions might prevent this change. On this supposition I washed out the nares of a hay fever patient with two minims of acetic acid and four grains of salt to the ounce of water. It gave him marked relief and continued to do so. For him no other treatment was necessary, but in other cases I found the turbinateds remained swollen in spite of the comfortable effects of the wash. Between the swollen opposing membranes was an excellent place for fermentation as it gave heat and moisture with blocked drainage. Although the patients could not breathe through the nares pollen was forced into them for during oral respiration pollen is deposited in the orapharynx and forced upwards by blowing the nose and the paroxysms of sneezing. It is quite likely that the ora- and nasopharyngeal cavities afford opportunities for the formation of the special toxine. The entrance of pollen in this manner explains the continuance of the malady for weeks after nasal respiration ceases, and it also suggests the necessity for cleansing with an antifermentative the ora- and nasopharyngeal cavities.

Experience with nasal sprays had led me to reject them for hay fever and indeed for most nasal complaints. For some months I have been using DESSAR's nasal douche cup and find it much more satisfactory than sprays. For those cases where the swollen condition continued after using the wash I added one and one-half grains of resorcin to the ounce of the mixture, as it is an excellent antifermentative and causes more or less contraction of the coats of the vessels in the turbinateds. This was so satisfactory that I used it for all cases and got either partial or complete relief. Where only partial relief was obtained I attributed it largely to the fact that it is so difficult to reach all parts of the nasal cavities if we have more or less stenosis, and this brought up two new points for consideration: First, could we by internal treatment render a patient immune to the toxine; second, should we remove by surgical means the obstructive lesions during the attack.

As I stated in an early part of this paper, all attempts to build up the system and cure the neurotic habit had given very poor results. Yet if my theory is correct there must be a great deal less resistive force in patients with fairly healthy nares who suffer from hay fever, than there is in patients who have no hay fever though they have serious obstructive lesions of the nares.

In our systems we have certain constituents that guard them against the attacks of toxines. Lately much investigation along this line has greatly advanced preventive medicine, yet we know but a small part of what is to be known, so that we are pardonable if we endeavor to strengthen the defensive forces by well-known remedies without knowing how they act. The fact that acid douches had a decidedly beneficial influence suggested the internal administration of acids, and I determined to prescribe muriatic acid, giving to each patient from one to two drachms daily, according to circumstances.

In my own case the acid douche gave complete relief but if I ceased using it hay fever symptoms would return in about thirty-six hours. Having repeated this experiment three times, I decided to stop the nasal douche and try the effects of muriatic acid internally. Within twenty-four hours after I began using it my hay fever disappeared and a feeling of general well-being ensued, and I became so immune to the influence of ragweed pollen that I was able to carry on my investigations with it instead of the innocent pollens.

This free administration of muriatic acid was beneficial in every case it was prescribed, and it suggests the possibility of the blood being too alkaline, but I made no attempts to determine this by examination of the blood since it is so extremely difficult to determine its exact alkalinity.

I have paid considerable attention to the nasal secretions, and find that on the average they were more alkaline in my hay fever patients than in other patients I was treating for nasal difficulties at the same time. I found the degree of alkalinity in obstructive nasal troubles varied much. A Mr. D., saloon-keeper, came to me for nasal trouble. I removed from the left nares polypi and some hypertrophied tissue. Four days later when he called I found the secretions in the left nares markedly alkaline while those in the right were neutral but became alkaline after I irritated the right turbinateds to cause a free discharge. A Mrs. W. had slightly acid secretions but later on when she caught a cold they became alkaline. My study of this part of the subject is entirely too limited to make any conclusions worthy of your consideration.

When I found that two drachms of muriatic acid a day rendered me immune to ragweed pollen, I gathered the plant and spent much time in trying to obtain a fair amount of the pollen for experiments, one of which was to make a number of infusions from it, all of which appeared to be harmless although they were decidedly bitter and of a yellowish brown color. I dropped them into the eye and applied them to the turbinateds of hay fever patients without any immediate effects or the tendency to cause an earlier return of the hay fever although I stopped the acid treatment. Another experiment was to snuff up the pollen and in an hour wash it out with acid solutions. Although a hay fever subject I did this with impunity, save for a slight irritation similar to what nearly all powders cause in my nares which lasted but a few moments. I selected an hour as the length of time to elapse before I washed it out as in that time any irritant action would be exerted and there would not be time for the formation of the toxine. I may say I could not obtain the pollen in quantities free from other parts of the flower, but by frequent microscopical examinations I was convinced over thirty per cent. by volume was pollen.

These two experiments led me to conclude that hay fever was not due to irritating or paralyzing properties existing in pollen as it enters the nares and I was forced to accept the idea that a toxine was produced by fermentative changes. This view was well sustained by the acid treatment. I tried to eliminate all psychical influences as will appear in the few cases I give.

Case I.—E. M., aged sixteen years, a robust, healthy lad, free from any neurotic history, one year ago complained of nasal stenosis, sneezing and watery discharge. Consulted me last Spring. I found right septal exostosis, turgescence of inferior turbinateds and adenoids. I removed turgescence by galvano-cautery and adenoids with curette. During the summer he had no trouble, but on September 16 he consulted me for a mild attack of hay fever, which he thought was a return of his catarrhal trouble. Wishing to avoid psychical influences I told him I would give him a wash and commence active treatment later on. I prescribed the acid wash and on September 10 he reported decided relief but all the trouble was not gone. I continued the douche and gave internally one drachm of muriatic acid a day. On September 14 he reported himself cured, but I continued the treatment, giving only half the first amount of the acid.

Case II.—R. P., a strong, healthy farmer, aged twenty years, with a hay fever history running over four or five years, consulted me October 12, 1894. I found left septal exostosis, hypertrophy of the turbinateds and adenoids. Removed exostosis with saw, hypertrophies with cold wire snare, and adenoids with curette. From December until August he reported his nasal trouble cured. On August 29 he reported as bad as ever. Stenosis, watery discharge and sneezing. Rhinoscopic examination revealed a typical case of hay fever. I gave him the acid douche. On September 6 he reported he was much better and would be all right if he could use his douche every hour. I continued the douche and prescribed internally eighty minims of muriatic acid every day. On September 13 he reported that all trouble had dissappeared within forty-eight hours of the time he commenced taking the medicine. October 26: has had no hay fever since. There was considerable turgescence of right inferior turbinated and though he claimed it caused him no trouble, I cauterized it.

I report this case because his hay fever was worse after almost all pathological lesions of nares had been removed, and because he is an unusually robust man with nothing in his own family to indicate a neurotic habit.

Case III.—F. B., aged thirty-nine years. No neurotic history, but typical attacks of hay fever for ten years. On September 8 I gave acid douche, and on September 11 patient returned saying the hay fever was cured. I stopped the douche and on September 14 he reported the hay fever had returned. I gave him ten minims of muriatic acid every three hours and after the second day only three times a day. Relief was complete.

Case IV.—Miss N. M., aged fourteen years, farmer's daughter, strong and well all the year, save from early in August until the first frost. No history of neurotic trouble either in herself or family. She consulted me August 17. I found the nares occluded with swollen and hypertrophied turbinateds. Her attacks were so severe that she was forced to go north for the four preceding years, yet she denied having any nasal trouble during the rest of the year. I used cocaine, and with the cold wire snare removed hypertrophies. I gave Dobell's solution for a wash, with the syrup of the hypophosphites internally. On August 21 she was but little better, save that her asthma was not so severe. I snared off a little hypertrophied tissue that had escaped my wire at the first interview and continued Dobell's and the hypophosphites. On August 26, asthmatic symptoms had disappeared entirely, but the sneezing, stenosis and watery discharge continued. I washed out the nares and nasopharynx with acid wash and the patient asked me if I could give her the same wash as it was far better than the one she had at home; that it made her head feel ever so much better. I gave it to her and prescribed ten minims of muriatic acid six times a day.

From that time on she had no hay fever. I held out no hope of relief for this year until she reported her hay fever gone. I wished to avoid all psychical influence and did not give her the acid treatment until surgery and Dobell failed. I think the acid treatment would have failed in this case had I not removed the hypertrophies, for while they remained it would have been impossible to get the antifermentative wash to reach more than a limited part of the cavities, while the sluggish circulation caused by such lesions handicapped the powers of those constituents of our economy which resist the attacks of toxines.

I place stress on the imperfect circulation for if it be true that hay fever is due to a toxine, we must strive to obtain a healthy circulation in the turbinateds to resist the evil influence of it.

We all know that many cases of hay fever are cured by removing obstructive lesions, and if the theory I advance is correct it is easy to understand why such cures should occur, because we improve the drainage, causing the pollen and its products to be cast out, and we change the secretions back to normal, lessening the tendency to fermentation, and we improve the circulation so that it has a much greater power for resisting the attacks of the toxine.

I resort to surgical treatment during the attacks since I have employed the acid treatment and I find very little reaction. I may say I believe much of the reaction experienced by some is due to lack of thoroughness. If I use the snare I endeavor to remove every bit of the hypertrophy attacked, and if I use the galvano-cautery I burn deeply enough to cut through the venous sinuses. To cauterize lightly irritates severely without cutting off much of the circulation. Thorough cauterizing causes no more irritation and tends to prevent engorgement, consequently causes less reaction.

I have used the acid treatment only since the latter part of August, and have treated in that time only seventeen cases. Of these cases four needed only the douche, and in six I resorted to surgical treatment as well as the acid treatment. Thirteen reported complete relief; one did not make any report; two got complete relief while using the douche but thought it was due to an infusion of snakeroot which they were taking at the same time; and the other one refused to take the muriatic acid or to allow me to use surgical means which were strongly indicated, as some vendor of secret nostrums for hay fever advised him to not do so; still, he says the douche did benefit him very much. In a few cases for the douche I used other acids than acetic, especially muriatic and citric, but my experience with them is too limited to determine their advantages and disadvantages.

FRACTURE OF THE NECK OF THE FEMUR.*

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"THE old-lady has fallen and fractured the neck of her thigh bone." This is the statement made by a physician, after he has examined an aged patient, to whom he has been hastily summoned. "Will she be long in bed?" her friends ask. The answer is that she will probably never walk again without the aid of crutches, and may not be able to leave her bed alive. The injury is very serious, notwithstanding the fall was easy. A physician will sometimes ask himself, "Can anything be done to diminish the number of injuries to the neck of the femur, suffered by old people? Can there be a prophylaxis of these accidents? Is there a faulty arrangement and construction of our streets, sidewalks and dwellings, the correction of which will diminish the number of fractures of the hip? If old people, generally, knew the brittleness of their bones, would they be more careful not to expose themselves to the danger of uneven floors and walks?"

In the writer's practice, an old lady slipped on a small rug, on a polished floor, at the foot of the stairs she had descended. Had the rug been fast to the floor, she would not have fallen and would have been spared months of suffering with an intracapsular fracture of the neck of the femur.

Another tripped on a threshold covered by carpet and fell, breaking the neck of her femur. The threshold was a useless part of the construction of a doorway, that was closed by a curtain instead of a door.

An old lady was sitting down to breakfast. Not looking, she sat on the edge of her chair and slipped off, striking the floor and crushing the neck of her femur.

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* Read before the DETROIT ACADEMY OF MEDICINE.

An old gentleman, not looking where he was walking, stepped from the curbstone to the street pavement, a distance of perhaps five inches. He fell, breaking the neck of his femur, and the injury caused his death.

An old lady was taken for a carriage ride by her daughter's coachman. Returning home, she stepped from the carriage without assistance, but fell on the sidewalk, because, she said, the ride made her dizzy. She arose, with the help of the coachman, who supported her, while she walked up the steps, into the house. The neck of her femur was found broken.

Surely, some of these accidents could have been prevented. Rugs should be fastened to polished floors. Old people should be helped in and out of carriages. The curb between street and sidewalk should be lower at street crossings. The prophylaxis of fractures of the neck of the femur deserves study.

The diagnosis of this fracture is sometimes very difficult. It cannot, in all cases, be made directly it occurs. The character of the fracture varies, in different cases. We may have any part of the bone divided from the junction of the neck with the head to the junction of the neck with the trochanter, and the latter may be included in the fracture. The most frequent point of division is probably close to the trochanter, both within and without the capsule. The direction of the violence causing it may be in the long axis of the limb; it may be in the long axis of the neck of the femur, and it may be through the transverse axis, as in cases in which the injury follows falls in the sitting posture, the shaft of the femur acting as a lever, while the clothing acts as a fulcrum, between the groin and abdomen. In my practice, violence in the latter direction and in the way described, has not been rare.

The signs by which the injury may be recognized are several, namely, loss of function. It is rare indeed that inability to use the limb freely is not complete; but, I have seen cases in which abduction and adduction, flexion and extension and rotation could be exercised without pain, the patient being recumbent. Probably this, along with the misleading fact that patients have walked a few steps directly after the fall, has often thrown doubts upon a case of fracture of the neck of the femur. Shortening of the limb, which results from displacement along the line of fracture, will, of course, not appear until the reparation of the fracture has become more or less complete. Consequently, the results of measurement, with reference to Nelaton's and Bryant's lines and angles, will often give only negative results. Eversion of the foot, commonly looked upon as a sure sign of fracture of the femoral neck, may signify nothing by its absence. When eversion is present, it is due to rotation of the femur on its long axis, in consequence of the weight of the limb, when the patient is recumbent. With eversion of the foot, due to fracture of the femoral neck, there ought always to be felt an elevation of the floor of Scarpa's triangle, because the fractured surfaces will probably be turned upward, according to the degree of eversion.

In a case of fracture of the neck of the femur, then, we can get no help from measurements or position of the foot, as long as the fractured surfaces are in apposition.

Persons with some degree of knock-knee will not be likely to have eversion of the foot, in consequence of rotation of the limb by its weight. One of my patients, who had also a fracture of the leg, had knock-knees to such a degree that, when the knees were placed together, the feet were six inches apart. A fracture of the neck of the femur, which occurred at the time the leg was broken, was not noticed until shortening of an inch and a half had occurred. Spasm of the external rotator muscles of the femur is necessary to cause an eversion of the foot in cases of fracture of the neck of the femur in persons with knock-knees.

The signs which positively indicate this fracture may be as difficult to define as those which do not indicate it. Probably the only sure sign that the neck of the femur is sound is the fact that the patient can use it with strength and comfort in all normal directions; that he has had no falls and that he is not of an age subject to brittle bones. When one has listened to the story of a fall or a blow, in the region of the hip and finds the injured limb cannot be enjoyed in all its functions; that it is shorter when measured from the anterior superior spinous process of the ilium to the internal maleolus, than the opposite limb, after due allowance and deduction have been made for the natural difference in the length of the two limbs; that the toe is markedly everted; that the floor of SCARPA's triangle is elevated, he may reasonably say that a fracture of the neck of the femur is present. And, if assurance is to be made doubly sure, he should add crepitus to the other symptoms; for, a bruise and contusion might cause the muscles to displace the head of the femur from its socket, so that a marked degree of shortening of the limb would follow. It might cause the external rotators to evert the foot and it might cause an elevation of the floor of SCARPA's triangle. When the long axis of the thigh is rotated on the hip-joint the trochanter describes an arc nearly equivalent to the quadrant of a circle. In fractures of the neck of the femur, if separation is complete, this arc will be very much diminished in extent. If the head of the femur is distended the top of the trochanter will be found above the line described by NELATON, running from the anterior superior spinous process of the ilium to the posterior border of the tuberosity of the ischium. It will also be found above the angle described by BRYANT, running posteriorly from the anterior superior process of the ilium, making a right angle with a line drawn through the long axis of the trochanter. But, the capsule of the hip-joint is commonly strong enough to prevent this unusual displacement of the trochanter, in all cases of fracture of the neck of the femur occurring within its limits. These lines and angles, therefore, serve rather to distinguish fractures through the trochanter and external to the capsule from fractures within the capsule. It is said that fractures within the capsule of the hip-joint rarely heal by bony union, whereas in those which are extracapsular or in part extracapsular, a bony union may confidently be expected. On these assumptions treatment sometimes hinges. In cases where only fibrous union may reasonably be expected, it would not be considered wise to jeopardize the general health of the patient by long confinement in bed, with the use of irksome extension apparatus. On the other hand, in cases of extracapsular fracture, the certainty of securing a sound limb justifies the treatment in bed, with extension apparatus.

The writer's experience in the treatment of these fractures leads him to the belief that a union, at least sufficiently firm to insure a useful limb for all ordinary purposes of locomotion, may be expected in the majority of cases, no matter what the age of the patient, and that, in all cases, some effort should be made to keep the fractured bones in apposition throughout the period of repair. He has used, with satisfactory results, fixation apparatus by means of extension, plaster of Paris, compression of the trochanter with screw and pad, and, about the hips, over apposition splihts, an elastic roller. The care of the patient, while under the restraint of apparatus intended to keep the fragments in contact for healing, becomes tedious and difficult. An intelligent nurse is essential, and apparatus should always be arranged in such a manner as to give ready access, at all times, to the sacral. region and the buttocks of the patient. For this purpose, he has found it best to apply adhesive straps to the leg, reaching from the sole of the foot to above the knee. A yoke is placed beneath the straps, under the arch of the foot, wide enough to prevent dragging upon the malleoli. A roller bandage is then applied from the toes to the upper third of the thigh, supporting the adhesive straps. The foot of the patient's bed is elevated four inches; a smooth mattress is placed under him; a ten pound weight is secured by cord and pully to the yoke under the foot, and counterextension is obtained by the patient's body. The patient is taught to flex the sound limb and press his foot upon the mattress, so as to raise the buttocks, that the bedding may be kept clean and smooth beneath him. In nearly all cases, this plan of treatment, when followed for eight or ten weeks, enables the patient to get about on crutches, and, in the course of a few more weeks, to learn to walk without crutch or cane.

In some cases, where there is a marked disposition of the fragments to cause an elevation of the floor of Scarpa's triangle, a better reduction of the fracture, with the patient under an anesthetic, is practical, and the tendency of the foot to evert, in consequence of the weight of the limb, is corrected by a bag of bran or meal, resting upon the mattress and supporting the trochanter. When this is with difficulty kept in position, and it is sometimes the case, a splint eight inches in width and a foot in length, of heavy pasteboard, is applied to the trochanter; a similar splint is applied over the opposite trochanter; a few turns of a rubber bandage are carried around the hips and, over these splints, to hold them in position, and compress the fragments in apposition.

Pain, which is oftentimes an aggravating and serious condition, requires to be controlled, and, before attempting to check it with drugs, renewed efforts should be made to secure a better adjustment of the fragments and an easier position of the limb. An increased elevation, by means of an inclined plane, with the extension pulley at the upper end of it, has been found to meet this indication satisfactorily. In one case under the writer's care, the patient was found to be most comfortable and free from pain when the injured limb was elevated to an angle of forty-five degrees from the body.

The severe and oftentimes dangerous constitutional symptoms, which sometimes show themselves after these fractures, should be looked after by means of good supporting diet, with a vigorous use of eliminatives. The restraint in bed and consequent loss of exercise calls for careful attention to the functions of the bowels, the kidneys and the skin. The use at regular intervals, every three or four hours, of a half pint of pure water, for the purpose of elimination by the skin and kidneys, is called for. The diet should be changed, as a new line of judiciously selected foods is likely to be followed by improved digestion and assimilation. The softening of the medullary substance along the line of fracture, the metabolism incident to the repair of bone and connective tissue proliferation, may be perverted by microorganisms, which, gaining access through the alimentary canal and respiratory passages, find the *locus minoris resistentiæ* and elaborate toxine which cause hurried respiration, rise of temperature, delirium, palpitation of the heart, syncope and death. No physician should stand idly by, a witness of these phenomena. Digitalis, trinitrin, calomel are agents which may, in these cases, be used with the precision of the knife; and a copious flow of urine, a free evacuation of the bowels may cause the threatening symptoms to vanish.

Throughout the treatment, the nurse should be taught to interest the patient, notwithstanding his age. For, many of these aged patients have the same zealous purpose and interest in the affairs of life, up to the time of injury, as younger persons. Friction, sponging, careful drying of the skin, and massage should make amends for the patient's lack of exercise. Cheerful company and an inspiring hope of recovery should make promising the progress of the case.

THE TESTS AND CLINICAL SIGNIFICANCE OF ALBUMINURIA.*

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THE increasing importance attached to the condition albuminuria warrants calling attention anew to this subject. The name carries its definition and refers to the presence of albumin in the urine.

There are several albumins and albuminous substances which may appear in the urine. Most important, however, are—

(1) Serum albumin, the albumin of the blood.
(2) Mucin.
(3) Nucleoalbumin, and
(4) Serum globulin.

Of these four substances, serum albumin is what we test for.

The chemical composition of albumin as it occurs in the blood is very similar to that of white of egg. LIEBERKUHN gives its formula $C_{36}H_{56}N_9O_{11}S$. Albumin belongs to the class colloids which do not crystallize and under ordinary conditions do not penetrate animal membranes. The albumin taken in our food is obtained from egg, serum, fibrin, plant and caesin.

There are many tests for detecting the presence of albumin in urine and other fluids. Before considering the different ways of detecting it in urine let me recall a few familiar directions often unheeded.

(1) A specimen for examination should be as fresh as possible. Fermentative changes make a test more difficult.

(2) In the case of specimens showing to the unaided eye a sediment, the microscope should be employed at the outset, revealing the nature of the sediment, whether it be urates, pus, blood, or casts. In case any one of the last three substances is found, albumin is doubtless present.

(3) The chemical reaction should be taken.

(4) Where a specimen is turbid it should be clarified by agitating with French chalk (drachm to ounce) and filtering.

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* Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

(5) Consideration should be taken of the medication a patient is receiving, for certain drugs cause albumin to appear in the urine.

This has been noted in the use of—

(1) Anesthetics.

(2) Drastic cathartics.

(3) Potassium nitrate.

(4) Coffee.

(5) Fuchsin.

(6) Various metallic salts, as mercurials, soluble compounds of antimony and lead, some salts of silver, salts of copper, the arsenicals and chloride of gold.

(7) Poisoning from arsenuretted hydrogen, carbon dioxide, phosphorus, iodine, potassium iodide and carbolic acid.

Certain other drugs complicate the test for albumin, such as cubebs and copaiba.

I have recalled these directions for the reason that personal observation has shown me that these fundamental principles are often disregarded. I was recently asked to see a patient declared to be suffering from uremia. The urine contained considerable pus; this had not been filtered out previous to testing, consequently the physician misjudged the case.

To consider in detail the various tests for albumin we may divide them into—

(A)—QUALITATIVE TESTS, and may consider—

(a) The common office tests applicable when albumin is present in considerable quantity.

These are:

(1) *Heat and nitric acid test.*

Take reaction.

If alkaline acidulate with acetic acid.

Boil.

Add an abundant amount of nitric acid.

If urine continues turbid albumin is present.

(2) *Heller's test.*

Pour thirty drops of pure nitric acid in a test-tube.

Carefully pour in the test-tube a few drachms of urine, inclining the test-tube so that the urine will spread over the surface of the acid.

If albumin is present an opalescent zone is observed at the point of contact between the urine and the acid.

(b) Bedside tests, which are in some cases desirable. We may employ—

(1) *Raabe's test.*

Place in a small test-tube fifteen or twenty drops of urine.

Add a crystal of trichloracetic acid and let stand without shaking until the crystal is dissolved.

A distinct turbidity at the bottom of the glass indicates albumin.

Urates, when present, occasion a slight turbidity generally diffused which heat will clear. There are also:

(2) *Doctor Oliver's bedside tests.*

These may be obtained in tablet form of PARKE, DAVIS & COMPANY. In DOCTOR OLIVER's tests neutralized paper is saturated with the reagents and then dried and cut into strips.

There have been brought forward lately:

(c) Tests which reveal the presence of minute traces of albumin. We may mention:

(1) *The picric acid test introduced by* George Johnson *and considered by* Osler *as delicate and useful.*

Place in a test-tube enough urine to form a column two or three inches deep.

Float upon this, gently mixing it with the upper layer of urine, a layer of saturated solution of picric acid, six or seven grammes to one ounce of boiling water, distilled.

The albumin when present is coagulated and renders the mixture turbid.

(2) *The test with ferrocyanide of potassium.*

Pour in test-tube fifteen to thirty drops of acetic acid.

Add two or three times the amount of a 1 to 20 solution of ferrocyanide of potassium.

Mix thoroughly.

Add urine until the tube is two-thirds full.

Albumin, when present, will be precipitated throughout the mixture by a more or less milklike, flocculent cloud.

Mention should be made of—

(3) *Millard's test.*

Prepare solutions as follows:

Carbolic acid, two drachms.

Glacial acetic acid, seven drachms.

Solution of potassa, twenty-two drachms.

Apply the test in the contact manner, overlaying the reagent with the suspected urine.

(B)—There are also Quantitative Tests.

(1) *Add a small quantity of acetic acid to a weighed quantity of urine which is then boiled.*

Collect the precipitate on a filter, dry and weigh.

(2) *Prepare and boil as in* (1).

Let precipitate settle.

Give proportion of precipitate to entire bulk of fluid.

Some results by this method may be read in weight per cent. terms. Thus when the fluid is completely coagulated the amount of albumin is from three to five per cent. When half the volume is coagulated, one per cent. is present.

(3) *Purdy employs a centrifugal method.*

In which the urine with reagents for the ferrocyanide of potassium test are placed in graduated tubes. The albumin is quickly separated centrifugally and results at once read from the tubes.

Of these tests I have selected the following for my own work for qualitative examinations:

(1) The heat test.

(2) Heller's test.

(3) Oliver's bedside test as modified by Parke, Davis & Company.

(4) Ferrocyanide of patassium test.

(5) MILLARD's test.

(6) There is one other which may be called PURDY's modification of the heat test. By means of a filtered saturated solution of common salt added to the urine the specific gravity is raised ten or fifteen degrees. Fill a test-tube two-thirds full of this solution, add one or two drops of acetic acid, boil the upper inch about a half minute. Albumin when present will appear in the portion boiled as a more or less pronounced milk-like turbidity. This procedure avoids the mucin reaction.

(7) GRAY (L. C.) advocates the use of TANRET's test.

Potassium iodide, 3.32 grammes.
Mercuric bichloride, 1.35 grammes.
Acetic acid, 20 cubic centimetres.
Distilled water, q. s., ad 100.

Apply in the contact manner overlaying the test fluid with urine.

DOCTOR GRAY prefers to carry tests along in a comparative way as follows: After the urine has been clarified, three four-inch test-tubes are filled one-third full. To one tube is added ten drops of MILLARD's test fluid, to another fifteen drops of TANRET's, to the third nothing. Boil the contents of the tubes to which reagents have been added. Compare while warm, against dark background. Set the tubes aside for fifteen minutes and heat again. MILLARD's test fluid precipitates serum albumin; TANRET's test precipitates serum albumin fibrin, alkaloids and peptones. Therefore, when TANRET's test alone shows a precipitate not dissolved by heat it will indicate fibrin, which must come from pus, blood or from a serous inflammation of uterus, vagina, urethra, prostate, or bladder.

It is important to note *certain sources of possible error.* I will confine myself to a consideration of this subject in connection with the tests just enumerated, for the most part.

The test for albumin may be made doubtful by the presence of mucin, nucleoalbumins, peptones, urates, phosphates, pine acids (that is cubebs and copaiba), and vegetable alkaloids.

In the heat test phosphates may occasion the precipitate. Nitric acid is added to remove doubt.

In the cold or HELLER's test the acid is apt to precipitate amorphous urates in the form of a light, rather brownish cloud. The cloud is not at the point of contact but above. Urates disappear on gently heating the contents of the test-tube. If mucin in excess be present a light cloud may come into view toward the surface. It appears here rather than at the point of contact for mucin is soluble in strong nitric acid.

In MILLARD's test there are also thrown down peptones, mucin alkaloids and pine acids. The peptones and alkaloids dissolve on heating. The pine acids and vegetable alkaloids are soluble in alcohol.

It will be proper to consider *what test will be recommended of all those referred to.* This will open a wide field for discussion and will introduce us to some very interesting papers which have been written during the past year. I have been very much impressed with the work of PURDY in this connection and coincide in my views with his recommendations. He advocates the ferrocyanide test as the most desirable. It requires fewest precautions, while in point of delicacy it at best equals nitric acid or heat. The test gives no reaction with peptone, mucin, the vegetable alkaloids, urates or the pine acids. He states that within the past five years the test has been given the preference in many of the leading laboratories and clinics in Europe over all others. MILLARD's test is referred to as a test of extreme delicacy of reaction. PURDY, in discussing the more recent tests, advocates the disuse of them for his experience has shown him that they are undoubtedly misleading and untrustworthy. STEWART, in *The Medical News*, of Philadelphia, says most of the recent tests may lead to error since they precipitate nucleoalbumin present in all urine and the origin of which is extrarenal. He would attach importance to cases which do not show positive results from the picric acid test. Trichloracetic acid is deemed by him specially fallacious. One hundred and five tests in young persons gave the reaction in all but three cases. The same objections are made in the case of TANRET's and MILLARD's tests. In a second paper he maintains his position.

Having, then, by some one of the tests, detected the presence of albumin in a sample of urine, what is the clinical importance of it? HOFFMAN and ULTZMAN suggest that cases be studied under the following classification:

(1) True albuminuria, in which the urine contains neither pus nor blood, and has not been accidentally mixed with albuminous fluids but does contain serum albumin.

(2) False albuminuria, in which albumin is present only as blood or pus and is a symptom of some pathological or traumatic condition along the urinary tract, that is, the kidney, ureter, bladder and urethra or from without the urinary tract.

(3) Mixed albuminuria, in which there is more albumin than can be accounted for by the presence of blood and pus. To obtain experience with this class of examinations, pus in varying amounts should be added to urine and an examination be made and the results be compared.

To refer more particularly to "true albuminurias" the significance of albuminuria may be studied from the standpoint of the—

(a) Physician—including certain special lines of work, as obstetrics, neurology, ophthalmology and insurance examinations.

As has been stated, albumin is not found normally in appreciable quantities in the urine. Its presence indicates departure from normal conditions and may be due—

(1) To changes in the basement membrane of the kidneys which make it possible for albumin to transude. This will include pathological conditions of the kidneys, the most frequent being inflammatory and degenerative.

(2) There may be changes in the quality of the albumin. In anemic and strumous individuals the cause must be ascribed to a change in the character of the blood, so that albumin is more diffusible. Here must be classed albuminuria following poisoning of certain forms, including infectious diseases.

(3) There may be a modification of the pressure of the blood through increased arterial current or slower venous current.. This is met with in cases of prolonged muscular exertion in case of exposure to cold of the surface of the body; in some derangements of the nervous system where vasomotor regulation is interfered with. Here should be placed the so-called physiological or functional albuminuria.

Albuminuria may be due to two of the causes mentioned, or even to all three. In fevers, for example, renal structure, blood pressure and blood may all undergo marked changes.

English writers refer to "cyclic albuminuria" and "albuminuria of adolescence." The causes are doubtless to be found in the list given.

In this matter of the clinical significance of albuminuria there is marked difference of opinion.

As good an authority as SHATTUCK (in *The Boston Medical and Surgical Journal*, June 4, 1894) concludes that:

(1) Renal albuminuria as proved by the presence of both albumin and casts, is much more common in adults, quite apart from BRIGHT'S disease or any obvious source of renal affection than is generally supposed.

(2) The frequency increases progressively with advancing age.

(3) Albuminuria suggests senile-degeneration.

(4) It is highly probable that faint traces of albumin and hyaline and finely granular casts of small diameter are often, especially in those past fifty, of little or no importance.

This last statement I should take emphatic exception to. If he had made the age thirty instead of fifty the view would seem to me less extreme.

PURDY'S remark is quite in contrast with this view.

"On the whole it will be safer to accept albuminuria as an evidence of an existing abnormal state, the gravity of which must be determined by its accompanying symptoms. The so-called functional albuminuria forms no exception to the above rule inasmuch as I have never met with a case of albuminuria in which the patient did not present more or less evidence of departure from the normal balance of health, either local or general."

From the standpoint of the insurance examiner, PURDY remarks "minute quantities of albumin are often observed in the urine of men at and beyond middle age who not only appear perfectly healthy, but who have as a matter of fact enjoyed the most typical robust health all their lives. Among this class will be found the largest number of those cases which have always proved so unprofitable to life insurance associations through concealed or overlooked disease of the kidneys.

Two features in this class mislead the examiner: (1) The seemingly perfect health; (2) the minute traces of albumin. Two lessons the examiner should remember: (1) That a healthy appearance or healthy personal record carries less weight in reaching conclusions as to certain pathological conditions of the kidneys than in any other disease; (2) that the presence of the traces of albumin in the urine, however minute, are often the index of irretrievably damaged kidneys.

BEALE says: "I have seen many cases of slight albuminuria in young people who, in every other respect, seemed perfectly healthy. The course of the malady in the great majority of cases rendered it quite certain. I regret to say that the very slight traces discovered could not be due to temporary derangement or to physiological albuminuria but depended upon the commencement of organic disease."

The society has had presented to it during the past two or three years several papers discussing the significance of albuminuria in pregnancy.

It is a well-known fact that in certain cases of advanced **Bright's** disease the oculist is the first to detect the disease because of the presence of a retinitis.

(b) The significance of albuminuria may be studied from the standpoint of the surgeon, particularly in influencing him as to the advisability of operative procedures. It is the generally accepted rule that where there exist serious lesions of the kidney only, operations of necessity should be undertaken. **Pick** thinks no operation for the radical cure of hernia should be performed if there is any disease of the eliminative organs. **Treves** says that operations are more powerfully influenced by diseases of the kidneys than by corresponding disease of any other organ. He says: "Surgeons have learned to ward off pyemia. They have yet to learn how to meet the terrible complication of **Bright's** disease."

Perhaps I cannot better conclude this effort to introduce this subject rather than to lay before you a complete discussion of it by briefly referring to a case which illustrates well how this question of the significance of albuminuria may be presented.

Mr. W., by occupation a salesman, about one year ago was rejected for life insurance because of traces of albumin in the urine. Came to me for treatment. Found he was entered in a bowling tournament and was exerting himself to an unusual extent in this game. I advised discontinuance of this severe exercise. My advice was acted upon. In addition I suggested a restricted diet and prescribed a digestive mixture and a chalybeate. After about four weeks the tests first employed failed to detect albumin in the urine. I have not seen the patient until within a week. I requested a specimen for examination. I learned also that vigorous exercise was now being taken in the form of football playing and exercise preliminary to the bowling season. The delicate tests show that albumin is again present. The collection of test-tubes with the accompanying labels show the reaction in the case of various tests in the urine from this patient.

(1) Heat and nitric acid.
(2) Cold and **Heller's** test.
(3) Ferrocyanide of potassium test.
(4) **Tanret's** test.
(5) Plain specimen.
(6) **Millard's** test.
(7) Heat and nitric acid with salt solution.
(8) **Parke, Davis & Company's** ferrocyanide of potassium tablet test.
(9) Picric acid test.
(10) **Raabe's** trichloracetic acid test.

NOTES ON THE DIFFERENTIAL DIAGNOSIS AND THE TREATMENT OF NEURASTHENIA.*

By E. S. PETTYJOHN, Ph. B., M. D., Alma, Michigan.

[Published in The Physician and Surgeon exclusively]

Ever since **Doctor Beard** used the term "neurasthenia," our profession has been struggling to settle upon a definite set of symptoms to be thus classified, and, in my opinion, has as yet but poorly succeeded.

Different writers give different illy-defined symptoms and subdivide them into cerebral and spinal symptoms, some even finding varied local neurasthenias.

* Read before the Detroit Medical and Library Association.

There is one thing they all agree upon: that this group of symptoms indicates disease of some part or every part of the nervous system.

The changes noted in the patient come on gradually. There is alternation of exaltation and depression in alternate waves lasting from one to three weeks each; a morbid watching of himself; exaggeration of his suffering and constant introspection; feeling neglected by others; intense belief in his own knowledge of his own condition and what is best for himself regardless of the experience of others; a disinclination to see a physician; the firm belief that he will recover; lack of desire for occupation; lack of ambition; nervousness in the presence of others. He has that tired feeling, or at least the absence of the feeling of conscious well-being.

In nearly every case some delusion will be found referable to the region of the spine or chylopoietic system, or an unreasonable belief that there is existing some morbid condition of the body which no one can understand or explain. Society and the family relatives are of no interest to him.

As one set of symptoms of an exaggerated or depressed condition of things disappears another takes its place. The appetite is poor, the skin is dry or excessively moist with lessened reaction after cold bathing. Sleep broken, and if the patient sleeps long enough in hours he is unrefreshed. He is oversensitive to noise and cannot endure even rhythmical sounds. He is nervous and restless and the little things that were formerly unnoticed are now very annoying and burdensome.

Instead of appearing anemic, the patient is as often of full habit, ruddy color, and the number of blood corpuscles and the presence of hemoglobin normal, as demonstrated in a large number of cases I have examined. All this means that, from lack of elimination, the system reabsorbs from the blood its own ptomains and there occurs a form of autointoxication.

Nervousness, weakness, insomnia, headache, neuralgia, vertigo, exaggeration and depression with local anesthesia and hyperesthesia over the spine (more frequently the latter) and elsewhere; this whole train of symptoms is born of a lack of physical nutrition, and there is not a symptom detailed in all this varied category, so-called neurasthenia, which does not belong to either, hysteria, hypochondriasis or mild melancholia.

True, neurasthenia may be a convenient term to molify the friends of the patient, but neurasthenia, as a distinct disease, in my opinion, does not exist. It is a popular term among the laity, and many a young woman has become a useless being in this world of action because she thinks she has neurasthenia or as later termed "amencanitis," the which name I utterly repudiate. It is a matter for consideration how much we physicians are to blame for encouraging this popular delusion and whether we may not some day on this very account be accused of nursing patients instead of placing a veto on this laity-born, self-perpetuating fad and letting firm-willed training school graduates do the nursing.

I believe we are today on the verge of a revision of our nosological nomenclature, and that diseases should hereafter be classified in accordance with their essential producing causes. When this comes to pass the term "neurasthenia" will be dropped.

We are not content with what knowledge we have gained secure or insecure, and while using it as best we may for the good of humanity we realize in all humility how much there is we cannot know yet cannot doubt. SHAKESPEARE asked, "Who can minister to a mind diseased?" I answer, "No one," but we can minister to the body and brain diseased, and that right well. Omitting the etiology of these conditions of the nervous system in reference to congenital physical defects, and the effect of the toxic matter of specific origin, I believe these abnormal states can be expressed in one word, *malnutrition*, and in turn that this condition of the body is due to the lack of equilibrium between elimination and repair. A continual procession of nonviable atoms is constantly penetrating living molecules, where they are themselves *converted into* living molecules by assimilation, that undiscoverable power of living matter. Each complex living molecule by varied processes of endosmosis, exosmosis and the chemical reactions with oxygen and other gases, is reduced to a dead or useless condition of matter, which then is eliminated to make way for the ingestion of othe new nutrient atoms. The systematic repetition of these processes is life and health. When we quit dying (eliminating) we cease to live.

While in health, so far as consciousness registers these two processes are simultaneous, in a pathological state of the body to be treated we would place elimination preceding repair. In a sound balance there is a complete balance of this double process of nutrition. But when the equilibrium of these molecules of living matter is distributed in nerve, muscle or blood corpuscle we have a functional disorder which if continued eventuates in a pathological condition. To produce or aid in producing this double process and reestablish its balance is rational medical treatment. I would rather outline the treatment under elimination, food, environment.

A systematic course of hydrotherapeutic treatment is essential to the best elimination through the skin. This is obtained by the Turkish, electric, vapor, hot mineral, or fresh water baths (always with cold to the head) combined or alternated with wet hand, dry hand, alcohol or oil rub and faradization, all of which can be given by a trained nurse under direction of the physician at the patient's home if he will take the trouble, and the doctor give explicit instruction.

The hot bath determines the blood to the surface by temporary inhibition of the vasomotor system dilating the capillaries withdrawing the blood from the deeper tissues, causing perspiration and at the same time temporary increase of nutrition of the skin. Rubbing is skin massage. Faradization is a skin stimulant. I do not speak now of the induced current with TRIPIER apparatus which effects the muscles and deeper tissues.

For the kidneys I direct a glass of mild alkaline water on rising, at 11 A. M., and 4 and 9 P. M., and use ozonate lithia, a pint or quart daily, if the solids are in excess. Saline laxatives with an occasional tablet triturate of one grain of calomel are given as needed. Alternation of rest and exercise is prescribed definitely. Passive and resistive manual movements are directed and those of mechanical appliances also, where available. Walking, horseback riding, cycling or the gymnasium practice after anthropometric examinations are prescribed, and when the patient is too weak to be out of bed, the induced current and massage are employed, the patient taking one treatment of each daily properly graduated in addition to some form of hydrotherapeutic measures.

For stimulation of the nerve centres a hot fomentation of the entire spine, or the alternation of the fomentation and ice to this entire region produces admirable results. Cold head bath with heat to stomach, liver and extremities reduces cerebral congestion and determines the blood to the central organs when advisable. Wholesome nutritious food should be taken at regular intervals every six hours (during night, if awake) in large quantities, with or *without an appetite.* Appetite, I believe to be largely a mental condition. Stimulating broths, but not food nor milk, should be given between the intervals of eating. The stomach of even a sick person should have some rest. If there is difficulty of digestion, the stomach contents should be examined, and the lacking digestant should be supplied.

The patient's environment should be pleasant, agreeable and often *un*homelike. He should be mentally occupied and make some effort to forget himself by thinking of something else, and taking an interest in others. The removal from responsibility, change of occupation (not idleness, though no set heavy tasks), living away from scenes where the association of ideas will bring a return of the morbid thoughts are essential aids to recovery.

With the daily oversight, care and direction of the physician, and the above indications intelligently carried out, the great majority of this class of patients, both chronic and acute, will recover, and many men and women be saved from a life of insanity in the present and in the next generation.

REPORT OF A CASE OF DOUBLE PYOSALPINX.*

By JAY L. McLAREN, M. D., Saginaw, Michigan.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

It affords me pleasure to report an interesting case of double pyosalpinx upon which I operated a short time ago, and I hope that the points connected with it may be of some benefit to physicians in handling similar cases, which, I am quite positive, are more numerous in our midst than are generally recognized.

The case is that of a young married woman who has one child three years of age. There is nothing unusual in the history of this patient up to October 5 last, when, not menstruating at her regular time, and suspecting a possible pregnancy, she introduced a soft catheter into the uterus. This instrument had been in the house for some time, and had previously served a similar purpose for another. A few days later she commenced flowing, apparently normal, and experienced no trouble until about a week afterward, when she began to have an uncomfortable feeling in her left side. At this time my services were sought, and, making a digital examination at my office, I discovered an enlargement of the left tube corresponding in size to my little finger. It was not sensitive unless subjected to considerable pressure. There had been no chill and only fever to cause an elevation of one-half degree of temperature; pulse about seventy-five. It was after the examination that I learned what had been done by the patient. The husband was informed of her condition, and likewise of the possible necessity for an operation. The patient was advised to refrain from lifting or straining, to keep the bowels open by salines, and to report in two or three days, or sooner if any marked change occurred.

Three days later I saw her again at my office, and her general appearance was slightly changed, a more sallow complexion presenting. The pulse and temperature were a trifle higher, and the appetite had failed. The same uncomfortable feeling continued in her side, and examination revealed increase in the size of the tube. The patient was informed that an operation was necessary, and two days later I asked **Doctor B. B. Rowe** to see her with me. He found the enlargement, but was somewhat uncertain regarding its nature. At this time the tube had increased to the size of one's thumb.

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* Read before the Saginaw County Medical Society.

The following morning I found a rapid development in size, and determined to operate at once. As the patient was averse to entering a hospital, I sent a nurse to the house to prepare for an operation in the afternoon. In anticipation of this emergency the patient had been put in suitable condition. On October 19, assisted by **Doctors Rowe, Beckwith, Wright** and **Ostrom**, I dilated and curetted the uterus and made application of a ninety per cent. carbolic acid solution to the interior. An opening was then made posterior to the cervix through the culdesac and an effort made to extract the tube, but fearing the advent of a rupture this method was abandoned and the abdomen opened. The tube was lifted from the pelvis and ligated close to the uterus, without any difficulty or loss of pus. In pursuance of routine practice the right tube was then examined, and to my surprise I also found this one enlarged, adherent to the ovary, and both bound by adhesions to the pelvis. In separating them from their bed a small leakage of pus took place. This tube was ligated close to the uterus and removed. The abdomen was thoroughly irrigated with sterilized water, allowing it to pass through the vaginal opening as well as the abdominal. The vaginal opening was packed with iodoform gauze and the abdomen closed in the ordinary manner. The patient made a good recovery, having scarcely any pain and never more fever than two degrees.

The points of greatest interest in this case are the absence of pain, chill, or of any fever to speak of before the operation, and the slow but gradual increase in the size of the tube until it approximated the size of a small sausage. I believe the majority of these cases are not diagnosed as such, but as pelvic abscesses, after leakage and peritonitis has occurred. In November, 1894, I opened an immense pelvic abscess following a pyosalpinx I had diagnosed a week previously, the family delaying an early operation on the advice of another physician. In July, 1893, I operated upon a similar case, which, judging from the history, resulted from the same cause. In neither of these cases was there any pain to speak of before the leakage.

From the above cases one would conclude that the early symptoms are not in proportion to the gravity of the condition, and that consequently pyosalpinx is often overlooked until alarming symptoms ensue.

TRANSACTIONS.

DETROIT MEDICAL AND LIBRARY ASSOCIATION.

STATED MEETING, NOVEMBER 11, 1895.

The President, ERNEST T. TAPPEY, M. D., in the Chair.
Reported by WILLIS S. ANDERSON, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor W. F. Strangways, of Flint, Michigan, read a paper entitled "Hay Fever: A Successful Treatment Founded on a New Theory." (See page 1.)

Dr. Shurly: I am greatly interested in the doctor's paper, and particularly with the innovations that it contains. I trust that he may be able to demonstrate that this very puzzling and annoying disease can be traced to such an origin. A great deal of the confusion attendant upon the disease called hay fever seems to me to come from the fact that we do not clearly know the physiological function of the turbinated bodies. It has been demonstrated that the nervous influence of the sphenopalatine ganglion preponderates over this region. There may be certain anatomical differences between individuals in these cases which may account for certain peculiarities that exist. It has been clinically proven that there is a very strong neurotic element in hay fever, because we find that it attacks only certain kinds of individuals. The Russians tell us that it is very rare in Russia, and when it does occur it is among the class of people who live in warm houses all the time. There are a great many instances of the disease to pass over without comment; instances of attacks of hay fever being brought on through mental impressions. You are all acquainted with the fact that many people will have an attack of hay fever if they ride behind horses, others if they ride on a street car, others if they go into the stable, et cetera, which shows that animal emanations may also be responsible for an attack of hay fever. I will cite the case given by DOCTOR JOHN MACKENZIE, which many of you, perhaps, know of, where a friend of his, who had suffered with hay fever for a great many years at a particular time, was subjected to experiment. He thought that she would be a good person to experiment upon with regard to psychic influences. He therefore obtained a fine wax rose. She was invited (just before the hay fever season, perhaps two weeks) to visit his house, and while there he requested her to step into his office, saying "Here is a beautiful rose; I want you to smell of it." "Oh my! you will bring on my hay fever." "But your hay fever does not come on until the 21st of September, and it is not nearly that time yet;" so she smelled of the rose, which brought on the sneezing characteristic of the disease, profuse watery discharge from the nose, the eyes became suffused with tears, and all the phenomena of hay fever were present. He afterward showed her that the rose was only wax. She felt a little dubious about it for a time. That is an illustration on record, by a man whose observations are always very conservative and correct, showing that there is a strong psychic influence in the etiology. It is not claimed, as I understand, that such individuals to be neurotic must have had antecedents who were insane or epileptic. As I understand it, the neurotic tendency is something that can be acquired just the same as any other predisposition can be acquired. The neurotic effect may be localized or general; in other words, such a person may have the neurotic disturbance expressed in one locality or another, in the nose or elsewhere, and until we know what is the nerve supply of the part I do not see how we can positively say that the cause in any given case is of local or general origin. Now, in regard to the treatment. Some people are relieved by going to certain districts. Some patients of mine have been relieved as soon as they get upon Lake Saint Clair. I have had patients severely attacked while attending to business down town in the lower part of the city, who, on going to their residence in the northern part of the city, would be relieved. With regard to the fact of there being, generally, inflammation of the nasal passages, I agree with the doctor, that there is none, but that there is vasomotor paresis. The blood-vessels get filled up; they lose their contractility, and we might have a permanent lesion. Many of the cases of hay fever are not due to deformity of the nasal cavities or to neoplasms. The doctor's statistics were all right, and his conclusions were perfectly sound, but the cases of hay fever that come to the laryngologist are very few. They visit their own physicians generally who prescribe for them, and only a minority of the people afflicted with hay fever ever get into the hands of those who pay special attention to diseases of the nose. As regards the reaction of the discharge, I think the reason for these secretions being alkaline in hay fever is because at such a time when the vessels become turgid nature tries to relieve them by the transudation of serum (alkaline) through their walls. I doubt very much if it were possible to neutralize the alkalinity of the blood. Various experiments have been made in this country and in Europe to do so but I believe have failed. So that although the blood does not become acid, possibly it may be that the general tonic effect and selective action of the muriatic acid on the nervous system may account for its good effects. So far as the local treatment by acids is concerned, I think they would be very good in some cases. I know nitrate of silver relieves some of them. Chromic acid has been used, and the late DOCTOR JARVIS was a strong advocate of chromic acid in the treatment of hay fever. Undoubtedly there can be no question that an acid solution put into the nose at a time when the serum is being poured out will afford some relief to the patient and may possibly cure him. There are so many things which cure hay fever and so many things which do not, that I have come to rely mostly upon general tonic treatment and hygiene. If patients are able to go to some other climate, that is the pleasantest cure for the difficulty. If that be impossible we mast try to relieve the exciting cause by general and judicious local treatment. Now, as regards the doctor's experiments with reference to the pollen. Of course, I would expect that any vegetable substance that is placed in solution might establish the process of fermentation even if it were an alkaline solution; but in conclusion I certainly hope the doctor has found the real cause. The toxine theory is open to much objection. I really thought we had one region of the body that would not be attacked with microbe or toxines, and for the sake of our reputation and the safety of human beings I trust this one region is yet exempt from their operation.

DOCTOR HICKEY: It is with a feeling of pleasure that I have listened to the paper of the evening. It seems to attack one of the bugbears of the profession in a new way. Certainly the doctor himself, who has suffered some years from the disease, had a great incentive to undertake the solution of the problem. It seems to me the same principle might apply to our surgeons with regard to the subject of appendicitis. Perhaps they would go to work and endeavor to find out why so many people have appendicitis. Pathological chemistry is a subject which is certainly in its infancy, and experimental investigations should be encouraged. There was one thing that I did not quite understand about the subject, and that is where the doctor endeavored to prove in the first part of his paper that but one pollen entered the nose in twenty-five respirations. It seems to me that we would experience considerable difficulty in having very much toxine manufactured from this very small quantity. I have used one-sixth of a grain of chromic acid to the ounce in the treatment of hay fever, and have not seen any practical results from it. With regard to the antiseptic treatment, some writers have given quinine in solution and found it quite useful in particular cases; perhaps from its antiseptic properties. I am sorry the season is so far advanced that we will have to defer experiments with the doctor's theory until some months hence. Personally, I should like to try it immediately.

Doctor Sherrill: I would like to inquire with reference to the experiments with the pollen. Were they prepared by the cold process?

Doctor Strangways: Yes; that would not necessarily destroy the action of the pollen.

Doctor Hitchcock: One interesting fact Doctor Shurly touched briefly upon: that is the very regular recurrence of the disease in some subjects; and if we accept the doctor's theory, is it not strange that the invasion of the toxines should occur at a certain hour of the same day. Doctor Hurd, of Baltimore, tells of the case of his brother, Doctor A. Hurd, who, for a number of years, at 2 o'clock in the morning of the same day in August, had been awakened with the recurrence of hay fever.

Doctor Longyear: It must be an element of hypnotic suggestion.

Doctor Miner: I did not have the pleasure of hearing all the doctor's paper, but from the discussion by Doctors Shurly and Hickey I have inferred the principal points that were introduced in it. All of us, I think, recognize that hay fever requires a predisposing cause on the part of the patient, and unless that tendency to hay fever is present that patients will not develop the disease. I do not think hay fever differs from any other form of periodical hypertrophic rhinitis except by its exciting cause. I recall one case who had been a sufferer for eight or ten years. He had the nerve supply of the turbinated bodies removed by the galvanic cautery but still the condition existed. No benefit was obtained in that case until the application of the galvanic current was made. A slight change was manifest after a few sittings, and when treatment was discontinued, at the expiration of about six months, the patient was entirely well and has had no recurrence of the attacks. I think in all cases where there is no pressure of the adjacent tissues that we find existing a vasomotor paresis, and it is a well established fact that the galvanic current is a tonic to the vasomotor nerves, and I am positive that in these cases benefit will be derived from the application of this current, giving daily sittings of from ten to fifteen minutes each, and using a weak current, say of from one to three cells. I will also add that I have had some experience with acetic acid from having patients snuff up a weak solution of vinegar, but I could not see any considerable improvement following this plan of treatment, and what slight improvement there was, seemed to be of a temporary character. The results recorded by the doctor of those seventeen cases are certainly very good. Whether the treatment was instituted at the commencement of the attack or not I do not know, but it seems incomprehensible that a disease coming on with such regular periods of recurrence could be due to the formation of toxines. Of course the line of thought is excellent, and if the results obtained are due to that cause it is a splendid way of treating those patients. But I certainly feel apprehensive that next fall our patients will be troubled quite as badly as they have been in the past, and I do not think the spraying of a weak acid solution into the nares will ever effect a cure. I think the tonic plan of treatment with the application of a mild galvanic current will cut short nine cases of hay fever out of ten, excluding, of course, those cases that are due to the presence of any deformity of the nasal septum or the presence of new growths in the nose.

Doctor Strangways: The question raised by **Doctor Miner** in reference to the predisposing cause—I think there is a little misunderstanding between us on that point. I certainly think there is a predisposing cause. My opinion is that we can have various forms of pain in the nerves without the person being a subject of the neurotic habit. **Doctor Shurly** seems to think the neurotic habit is essential, but he explains it in this way: that it is not necessary to have a history of insanity or epilepsy. I admitted in my paper that seventeen cases is not enough to form an opinion from, but that is a point I am anxious to have information upon, hence I bring down my paper to-day to suggest a certain line of thought with the hope that it may stimulate new investigation as to the origin of the disease, but I do not by any means say that I have proved it or that I am positively on the right track.

STATED MEETING, NOVEMBER 18, 1895.

The President, ERNEST T. TAPPEY, M. D., in the chair.
Reported by WILLIS S. ANDERSON, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor Elmore S. Pettyjohn, of Alma, Michigan, read a paper entitled "Notes on the Differential Diagnosis and Treatment of Neurasthenia." (See page 18).

Doctor Inglis: The point in the doctor's paper which appealed to me as most important was that neurasthenia is merely another term for malnutrition. While I find it extremely difficult to define neurasthenia in exact terms I do not agree with the doctor in thinking that the term does not indicate a thing which really exists. We are thoroughly familiar with patients whose bodies are generally ill-nourished. The same poor nutrition affecting the cerebrospinal axis causes nervous symptoms which vary endlessly in their combinations but which can readily be recognized and which together form the picture of either neurasthenia or hysteria. In speaking of the treatment of neurasthenia, the doctor takes the point of view which I think is but natural. He lives and moves and has his being where hydrotherapeutics is the leading form of treatment. It seems to me we can accomplish the same results by other means. I think I can best illustrate my point by a case of a man who was the bane of my existence. He called forth all my mental resources. Finally I said to him: "John, you must go to work." The only work he had ever done was to act as gatekeeper at the Michigan Central. He obtained a position of firing on a passenger train running between here and Jackson. At the end of the first week he called on me saying "Doctor, it will kill me." At the end of another week he called on me again feeling splendidly, enjoyed an excellent appetite, saying "Give me pie, and give me plenty of it." I succeeded in accomplishing by that rough and ready means results which no other form of treatment would have given. I stimulated his elimination and the ingestion of food. Indeed, if he had not assimilated abundant food the experiment would have proven a failure before the end of two weeks. More and more I am led to believe that many of our patients are suffering very largely from that persistent failure to eliminate. I believe that in these cases of neurasthenia the failure to generally eliminate effete products stands in the way of advancement on the part of the patient. I have seen patients who were given tonics by the physician to get food into them but nothing was done to get the waste matter out. In many cases by beginning at that end of the treatment you will find the patient make rapid improvement.

DOCTOR SPRAGUE: I believe, with the doctor, that this condition can be treated better in a sanitarium than in general practice; that we have in hydrotherapy and electrotherapy the best possible agents for the treatment of this condition. I do not quite agree with the doctor's ideas as to the desirability of abolishing the term "neurasthenia," nor do I think that all cases are covered by the symptoms which he has described. I think any disturbance of the vasomotor centres will produce such a condition. In the Battle Creek Sanitarium, in which I practiced for some time, and where we had many patients affected with neurasthenia, the vasomotor symptoms were the most prominent present. I recall the case of a gentleman, in particular, who had overwrought his nervous system from too close attention to business, in which flushing of the face was the most aggravating symptom of which he complained. That patient did not improve very much under treatment in the sanitarium. By travelling and resting from his business he finally did improve, as I learned afterward. I think another important etiological factor in the causation of this condition is sexual excess. I did not see much use for eliminative treatment in neurasthenic patients, but more benefit was obtained by the alternate use of hot and cold water treatment and massage, as well as electrical treatment.

DOCTOR LONGYEAR: The subject of neurasthenia is a little out of my line. No doubt the gynecologist sees a great deal of it. When he does see it he has peculiar cases which he generally finds are due not to simple nerve weakness, but, as the doctor states in his paper, to some other condition. I do not believe that the plan of treatment by giving of nerve tonics only, as adopted so often by the general practitioner, is calculated to give very good results. I think the doctor has struck the problem pretty thoroughly in his paper tonight—first looking toward the elimination of waste material, and then the healthy supply of force in the way of foods, rest, fresh air, et cetera, with assistance of the nerve tonics. In that way I think he will get along with those cases much more rapidly and make permanent or more lasting cures.

DOCTOR DOUGLAS: I do not think it is customary with general practitioners to "fire in" nerve tonics as DOCTOR LONGYEAR expresses it. I was struck by the force of the arguments presented by the essayist of the evening as to the desirability and advantage of elimination. While elimination is very necessary in these cases, that is not the only feature that has to be looked after. My object in rising is in defense of the line of treatment adopted by the general practitioner. I think there is scarcely any intelligent or progressive physician but who looks upon neurasthenia as generally due to a depreciated condition of the whole body. He tries to ascertain what is the particular factor that is pushing the patient down, where the weak spot is, and treats its cause, seeing that the main eliminative organs are in proper condition to get rid of the waste products, at the same time furnishing the patient with healthy and nutritious food for the process of reconstruction. I fancy that elimination is more necessary in a sanitarium than where the patient is treated at home, because in an institution of that kind they do not get a fair amount of exercise such as they do outside.

Doctor Connor: I believe it was **Doctor E. H. Van Dusen**, of Kalamazoo, Michigan, who first directed attention to the disorder now called neurasthenia. He first formulated the group of symptoms characterizing it, and claimed for this origin a distinct disorder in the nutrition of the nervous system *per se*. The name neurasthenia was given this group of symptoms by the late **Doctor George H. Beard**, who did much to impress the profession with the importance of this disease, with its manifold forms, with its causes, and with the rational methods for its relief. That overwork or overworry may, without any organic disease of any organ of the body, so disturb the integrity of the nerve centres as to cause an unstable equilibrium of the nerve centres, he compelled the profession generally to accept. Because neurasthenia often affects unfavorably the eyes, the ophthalmologist is frequently consulted by its victims. Not seldom is he the first medical man consulted, and if he recognizes the nature of the case he can by wise advice do much to prevent its progress, if indeed such advice does not result in complete restoration to health. It is doubtless true that most cases of neurasthenia call for eliminative treatment combined with generous feeding, but there is certainly a number which call for neither. To illustrate: X, a railway president, breaks down. The most careful study of his case reveals no lack of health either in the matter of digestion or elimination. He is of spare build and what in general would be called "wiry organization." He visits Carlsbad, only to be told that neither the drinking or bathing in Carlsbad water will benefit him. Instead, his mind is diverted by the interesting features of the town, and the entire body douched twice daily with cold water from the mountains, in such a manner as to stimulate the nerve centres to the largest activity. In a few weeks he returns to his work a sound man, and by following the physician's directions expects to so continue. Many similar illustrations will suggest themselves to each observing practitioner, all proving that in such cases the nerve centres must be reached directly and compelled to do their normal work. Meantime it is most important that they be withdrawn as much as possible from the worries of every-day life. Just in this connection sanitariums serve a most useful purpose. A residence in them removes the neurasthenic from the special conditions which induced his attack. The load is removed from the exhausted shoulder to the fresh one, and opportunity for recuperation afforded. Well appointed sanitariums, like the mineral spring resorts of the old world, gather about themselves all sorts of diversions to so distract thought and divert feeling as to effectually keep the burdens of life away from the exhausted nerve centres. Thus these centres are permitted to utilize all their force in the simple work of repair. The problem in its last analysis is a simple one. The nerve centres ordinarily are compelled to work and repair waste. In the young, to these functions must be added the power of growth. By the management under discussion, the work is entirely removed from the nerve centres, and all their power is concentrated upon the repair of waste. When this is completed the patient is well.

Doctor Flintermann: I will only make a few remarks regarding neurasthenia. Very often the diagnosis is made neurasthenia when, I think, it is very far from correct. **Althause**, of London, has made a protest against the term "neurasthenia." **Gowers** says that neurasthenia is nothing else but what former neurologists called nervousness. Now, as to the symptoms of neurasthenia. What are the cardinal symptoms? One symptom in neurasthenia is that the patient suffers from urine of very low specific gravity and containing a very large amount of phosphates. Then there are other cases where the urine contains for some time sugar. Whether such cases are really cases of diabetes is the question. Then there are some other cases where we find albuminuria, and again we find cases where we have a combination of all these elements—phosphates, albumin and sugar—in the urine at the same time. We know that diabetes is caused by an affection in the floor of the fourth ventricle. When we find any weakness of the medulla oblongata it is almost invariably found that the urine contains sugar. Albuminuria is not always due to an organic disease of the kidneys, but very often to an impaired nutrition. Now, it is very difficult in all cases which come under observation manifesting symptoms of neurasthenia or encaphalsthenia to distinguish between hysteria and hypochondriasis; as, for instance, those of commencing dementia paralytica or softening of the brain which may give all the symptoms of neurasthenia, but in which we find we have to deal with a severe organic disease of the brain. It is said that the knee reflexes in cases of neurasthenia are exaggerated, but I have seen cases where the knee reflexes were absent. Very often the diagnosis is made of locomotor ataxia. The pupils are very often dilated, and very slow to the reaction of light. There is another condition where we have all the symptoms of neurasthenia, and that is in patients who suffer from the uric acid diathesis where the urine shows a large amount of urates. We have the same symptoms present as in neurasthenia, namely, mental depression, disturbance of vision, insomnia and loss of power to direct attention to anything for any length of time. As regards the treatment of neurasthenia, there is no better treatment than to send patients to a sanitarium to be treated with all the modern appliances which are of benefit to the patient. To prevent the development of neurasthenia—that is something else. People who want to work cannot find work to do. Of course that must have a reaction upon the nervous system. The manner in which people live has a great deal to do in producing this disease of neurasthenia. For instance, you see young men throwing themselves into all the pleasures and excitements of American life who work from early morning to late at night. They resort to stimulants to keep them up, and these are the men who break down.

Doctor Pettyjohn: I want to call attention to the fact that I have not once used the word sanitarium. The lines of treatment are only suggestive in a general sense. I do believe that a change of occupation and a change of environment are essential elements in this class of cases, and I desire to say, since someone else has introduced the subject of sanitarium treatment, that rest is not the most the patient obtains there. That is a mistake. The sanitarium physician will make a most thorough and rigid examination of the case in every possible particular before he undertakes to treat it. He can well do so because he can take a week in which to do so, but if the general practitioner takes that long his patient generally goes to some other doctor. A methodic, regular habit of life is one of the important things in sanitarium treatment. I omitted purposely any mention of the cold water treatment as a tonic. Of course tonics are always necessary in some form or other. **Doctor Flintermann** refers to the knee-jerk, and to the eye symptoms, and also to every other form of disease that might be mistaken for this one, excepting the one of melancholia, and **Doctor Inglis** knows as well as I do that some of these cases eventuate in melancholia. I think our state institutions and the private institutions who treat cases of neurasthenia all do something besides watching and feeding their patients.

DETROIT ACADEMY OF MEDICINE.

STATED MEETING, NOVEMBER 12, 1895.

THE PRESIDENT, W. R. CHITTICK, M. D., IN THE CHAIR.
REPORTED BY C. W. HITCHCOCK, M. D., SECRETARY.

DISCUSSION OF PAPERS.

Doctor Hal C. Wyman read a paper on "Fracture of the Neck of the Femur." (See page 8.)

Doctor L. E. Maire: It was formerly declared that such an injury would debar from future use of the limb, but in recent years we have come to realize the possibility of a better outcome. Young physicians may easily get into trouble from such cases. I recall a case in my own practice. The patient, a woman, was addicted to drink, and refused to enter a hospital. I submitted for my own protection a formal release, which was duly signed, exonerating me from any responsibility as to results of injury or treatment. This I deem a wise measure, especially when dealing with people of meager intelligence.

Doctor Emerson: Three cases I have seen in old ladies. In one there was great query as to whether there was a fracture, there being only slight eversion present. We took great care to move the patient very little, believing that, if impacted, union might take place in that position. Great damage may be done by incautious handling, and I think **Doctor Wyman** will confirm me in this.

Doctor Biddle: At Harper Hospital we had two or three cases in which results, while not fatal, were not all that could be desired. **Doctor Book**, whom I early assisted, always insisted on very little interference, thus avoiding unnecessary damage.

Doctor Hitchcock: I have had but one case of fracture of the neck of the femur, the patient being a man about fifty years of age. This case was treated first with a long splint and **Buck's** extension; later by a plaster of Paris cast from foot to hip and around the pelvis. The result was all that could be desired. It certainly is better policy for the surgeon to remain in voluntary ignorance of the exact nature and minute direction of the injury rather than persistently seek this knowledge through unnecessary and damaging manipulation.

Doctor Bigg: The caution of the younger men has been alluded to. I think sometimes the younger men are more likely than the older ones to use extreme caution. I recall a sweet feeling of triumph occasioned by a case in my practice. A young man came to me complaining of rheumatism of the hip. He was active and athletic and for a time I accepted his diagnosis. I finally suspected other trouble, made a careful examination, and found evidence of incipient hip-joint disease. His friends were restive and called in another surgeon, an older man, who advised his friends to tell **Doctor Bigg** to read his books and not call psoas abscess hip-joint disease. Again his restive friends sought other advice, when my diagnosis was confirmed, the patient operated upon, and the joint exsected, but the patient eventually died.

Doctor Aaron: The plan for release appears to me unwise, and consultation would seem the preferable procedure. I would like to ask **Doctor Wyman** the guide as to whether we may have a fracture or a dislocation, which may need manipulation for its reduction.

Doctor Wyman: The inversion of the foot will ordinarily in these cases point to a dislocation; the eversion of the foot will make one think rather of a fracture. A case once puzzled me, and, on careful examination, I found something in the right Scarpa's triangle not present in the left. I diagnosed fracture of the neck of the femur, was not agreed with, but the autopsy, a little later, proved the correctness of my diagnosis. The treatment is very important in these cases. I speak of a weight of ten pounds. Of course I do not always use so great a weight. There is danger of converting an impacted fracture into a separated fracture.

Doctor Bigg: Is extension in cases of impacted fracture desirable?

Doctor Wyman: I think it is, because of the tendency of muscular action to increase shortening. I have a case near here, an old lady who, although over eighty years of age, still attends unaided to her ordinary household duties.

Doctor Emerson: Is it not true that in some cases fracture is from absorption rather than from brittleness of bone?

Doctor Wyman: Yes; I can recall cases which were really spontaneous from such cause.

Doctor Chittick: I can recall three interesting cases: (1) An old lady fell down stairs and fractured the neck of the femur. She was treated first with heavy felt splint, which could not be endured in hot weather; extension was continued, and in four months she walked with crutches, and now scarcely limps. (2) An old gentleman slipped and fell on the street. No evidence of fracture could be found, but that joint looked flattened. Counsel thought it an impacted fracture. He used crutches for over a year, but now walks with a cane. (3) An old lady, when ironing, turned and fractured her hip. She did badly; would remove weight and displace fracture almost every night.

WAYNE COUNTY MEDICAL SOCIETY.

STATED MEETING, DETROIT, NOVEMBER 6, 1895.

The President, EDGAR B. SMITH, M. D., in the Chair.
Reported by FRANK S. HOUGH, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor Matthew D. Mann, of Buffalo, New York, read a paper entitled "Some Mistakes in Gynecology."

Doctor Jenks: The paper is a plea for a wider, a more thorough general knowledge of medicine. Not only for general practitioners, but for gynecologists. It is in line with what I have believed for a long time. It is my own belief that no man is competent to practice a specialty of any kind, unless he has first been an all-around general practitioner. Some of the points spoken of are at variance with old teachings. The older writers teach that there is always pain with cancer. I have long believed that there is no pain characteristic of cancer. In cases of cancer of the uterus, the patient will not suffer pain until two or three weeks before death. It is only imaginary pain that is suffered before that time. General practitioners often mistake pain due to constitutional conditions for ovarian disease. Sometimes a mistake is made in diagnosing abdominal hernia as abdominal tumor. A case comes to my mind where the patient was operated upon for ovarian tumor, which was nothing more nor less than a pendulous abdomen. When the uterus is out of position, I look upon the adjustment of the pessary as necessary, and agree with DOCTOR MANN. I look upon the proper adjustment of the pessary as very essential. What will fit one person will not fit another. I remember, a few years ago, a surgeon, a friend of mine, wrote to me for a pessary. He might as well have written to me for a pair of shoes, without telling me the number. It so happened, however, that I sent him a pessary that fitted. Another error is made by physicians in pretending to be able to judge, in individual cases, the capacity of women for bearing children. I believe, implicitly, that the highest function of woman is motherhood. The paper is an excellent one. I find very little opportunity for differing with the doctor. I should like to do so, if I could.

DOCTOR WALKER: I have seen numbers of cases like those just described, in which there was no pain felt in the uterus. A patient may have a cancer of the uterus for a long time, without knowing that there is anything the matter with her. A short time ago, I was called to a distance, to see the mother of a prominent practitioner of this city. She would not let anyone make an examination. She was very stout, and the only trouble she experienced was in passing urine. It was quite evident, from her appearance, that there was some difficulty breaking her down. Upon examination, I found that she was suffering, not only from some perforation of the bladder, but that there was a perforation of the rectum as well, and, during all this time, the woman never complained of any pain. I could recite several instances of cases in which there was no pain whatever, while malignant growths were going on. Mistakes have been made, not only by the general practitioner, but by others—by the gynecologist. The points conveyed in the paper are quite important and instructive and, no doubt, furnish a good lesson to all of us.

DOCTOR SAMPSON: I have been delighted with the straightforward, businesslike paper. It contains a good deal that there is a moral to be derived from. Cascara sagrada and cold water have cured thousands. There are many women, who have been going round the country, leading miserable existences, and cascara sagrada and cold water would have cured them. I was told that the paper was for the purpose of clearing up the errors made by the general profession, not the gynecologist. I am glad the general practitioners are here to defend themselves. I believe in a good many things that DOCTOR MANN says. There never was a time on earth, since men and women were first made, that men and women knew so much about the uterus and ovaries, laparotomies, et cetera, and I believe the gynecologists are the men who have spread broadcast this knowledge, and are to blame for the unwarranted removal of ovaries. One thing in the paper especially struck me—the statement that there never is any pain in cancer of the uterus. I am disposed to think that I never have seen a case of cancer in the pelvic region, in man or woman, in which a careful conversation did not draw out the fact that the patient suffered from a burning feeling in that region. Burning is the word that the patient nearly always uses to describe the sensations existing in the pelvis. Those patients who come to us, with symptoms so graphically described by **Doctor Mann**, can be cured. They are induced to go and see a gynecologist. The gynecologist is the man who so often finds something wrong with the cervix, et cetera. The woman goes to see a specialist, then goes home and poisons a whole school section. Three women once met accidentally and one of the three, a most estimable lady, on being asked how she felt, said she was very well indeed, that she had had both of her ovaries removed. The second also remarked that she was in excellent health, that she had undergone the same operation. The third remarked that she had come in that day to have hers taken out. Two of them had had their ovaries removed and were supremely happy. The third one had just come in that morning to have the operation performed.

Doctor Longyear: On hearing the subject of the paper, "Some Mistakes in Gynecology," I came prepared to take the part of gynecologists and to say that I think mistakes are made by the general practitioner, but I found the paper had no relevance to mistakes of gynecologists particularly. The essayist opened up and certainly ended his paper, I think, with a good, square attack on the gynecologists, which I think is proper. I think that the most valuable part of his paper is where he speaks of the general treatment of the patient. Elimination has more to do with diseases of the pelvic organs than any organic disease. I think the principles of the general practitioner should be followed more by gynecologists than they are. One line of mistakes the doctor did not comment on in his valuable paper. I remember a little incident. I heard a general practitioner say, "I want to get something to raise up the uterus with. I want something to raise it right up; to pull it right up. I have got a case in which the uterus, the body of it, lies right back on the sacrum. The os is right up against the pubes. I cannot push it up. I want something to stick in there and raise it up. I want a derrick." I did not find out whether he found a derrick or not. It occurred to me that that is one of the mistakes very often made, and that, if these fellows would stop "raising the thing up," gynecologists would do a great deal better.

Doctor Manton: I came here under a misapprehension. I came, feeling very much like the French prisoner, who, on approaching the guillotine, was seen to tremble, and, on being asked if he were afraid, said, "No, but I fell very cold." I came in feeling very cold, tonight. I expected to see the heads of **Doctor Webber**, myself and others, lying in the basket. I am glad the doctor took the other side of the subject. There is nothing in the paper which one could criticise. There is everything to commend. It contains a lesson, not only for the general practitioner, but also for the gynecologist. I have a few cases which I might relate, but I want to write a paper myself, so I will keep these two or three cases. I think, however, if gynecologists would write more papers like the one we have heard tonight, it would be of benefit, not only to the specialist but also to the general practitioner. In attending the meetings of various societies, I have been struck with the frequency with which the subject of gynecological surgery occurred in the programme. There are a great many other points besides abdominal surgery. There are a great many minor points, which **Doctor Mann** has touched upon tonight, which should be investigated still further. I cannot agree, however, with my friend, **Doctor Sampson**

that the main object in the life of a gynecologist is to remove the ovaries. I think the modern gynecologist is the man who tries to save the ovaries. True abdominal surgery is conservative surgery. I am pleased to have had the opportunity of hearing DOCTOR MANN tonight.

DOCTOR DONALD MACLEAN: I have had the great pleasure, I might almost say the felicity, at one time and another during my somewhat tempestuous professional career, of hearing so many charges made against me that I had come to the conclusion that everything that could be said, had been said, and, every charge that could be made against an ordinary man like myself, had been made. Here, to my astonishment, I find that DOCTOR SMITH makes a charge of a most unexpected nature, that, when I get on my feet to make a speech, I cut my remarks too short. I wish now to give it a most positive denial, and I appeal to this audience—many of whom have had the felicity or the infelicity, as they please, of hearing me speak—I appeal to you as to whether I am not justified in contradicting most absolutely, the statement just made. The fact of the matter is, that whenever I have set out to do anything, in my life, I have generally stuck to it until I accomplished it, either by hook or by crook; and, when I get up to say anything, I generally manage to get it said, one way or another, although sometimes, in a good many words. Tonight, I am going to try to throw some little shadow of justification in the way of our worthy president's statement and perhaps enable DOCTOR MANN to return home to Buffalo with something of a favorable impression in regard to my talkativeness. Now, in the first place, I listened to the paper tonight with a great deal of pleasure. It was an extremely interesting, useful and practical paper, and I have followed it all through with a desire honestly to note down in my own mind, anything that struck me as deserving criticism. I feel in duty bound to give it my entire and cordial endorsement. Perhaps there is no man like myself old enough to have followed the history of gynecology from almost its very inception down to the present time. I have watched the various steps of its career, starting, as it did, with MARION SIMS on this side of the Atlantic, and JAMES YOUNG SIMPSON on the other, and, it is a matter of history that every medical man ought to remember and appreciate that these two men, SIMPSON and MARION SIMS, were the real authors of gynecology. I think the real history of gynecology dates from SIMPSON'S work, followed, very ably and closely, by MARION SIMS. Having studied with SIMPSON, and having watched the progress of gynecology, from its inception down to the present time, I feel that I have some little right to express a candid opinion as to the results which have been attained by that great, new and important addition to the various departments of medicine and surgery. It is a department by itself. I think any man, who has lived long enough, and who has watched the progress of gynecology, must feel more than amazed, almost astounded, at the results which it has attained. Some gentlemen came here tonight expecting to hear about the mistakes that gynecologists have made. No doubt they have made many. No doubt if JAMES YOUNG SIMPSON, MARION SIMS, and others who have followed in their footsteps, could appear before us tonight, in looking back and taking a retrospect of their careers, they would see many mistakes—many grievous errors are chargeable to gynecologists; but, at the same time, there is no other department in the practice of medicine that has done more to relieve human suffering than gynecology. I will say that though I have endeavored to follow in the footsteps of gynecologists, I have never felt justified in calling myself a gynecologist. I have admired their work. There is one charge which the general practitioner is entitled to bring against the gynecologist. In former times, if you went into any general practitioner's office, what would you see? A whole flock of poor, miserable, dragged out women, looking forward, almost with eager anticipation, to the termination of their career, suffering from ovarian disease, displacements, et cetera. Now, in the office of the general practitioner and general surgeon, you do not see these women. They have had the good fortune to find a successful gynecologist, have had their ovaries and gynecological defects removed and enjoy useful and industrious lives. Now, if you please, the general practitioner may bring this charge against the gynecologist. I do not think the gynecologist has any reason to shirk any kind of investigation, so far as the result of his surgical labors are concerned.

DOCTOR MANN: I thank you very much indeed for the kind manner in which you have listened to my paper. I thought that the article on pessaries might stir up a good deal of strife. I have only a very few words to say. In the first place, I wish to state that there is one other man, SIMON, in Germany, who worked a little after SIMS, who struck out original methods and accomplished much the same thing. He is a man who did more than SIMPSON in gynecology. It is claimed that gynecologists are delighted to remove ovaries. Gynecologists are striving to save the ovaries. For my part, I always make it a point to save the ovary, if possible. I never remove both ovaries in a young woman, if, by any possible chance, I can save even a part. Give the ovary a chance. Let the woman have her ovaries and be a woman, not a neutrality, without her ovaries. With regard to there being always a burning pain with cancer of the uterus, I do not believe it is the case. I have known of many cases in which there was no sensation of any kind in the earlier stages; nothing to make the patients believe there was any disease. Therefore, they did not apply to a physician, at once. It is only, as DOCTOR JENKS remarked, when the surrounding tissues are involved that pain is felt. In the earlier stages, it is not painful, in any sense of the word. There are other points I might take up, but my bus is waiting. I must thank you again and conclude.

GRAND RAPIDS ACADEMY OF MEDICINE.

STATED MEETING, DECEMBER 30, 1895.

THE PRESIDENT, SAMUEL P. WOOSTER, M. D., IN THE CHAIR.
REPORTED BY JOSEPH B. WHINERY, SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR KING read a paper entitled "Statistics Regarding the Serum Treatment of Diphtheria in Grand Rapids for 1895." (See February issue.)

DOCTOR JOHNSTON: I had no idea that forty children have died in this city in the last year from diphtheria. Some one loses these cases. Many cases are reported that are not diphtheria. Recently I was called to see three cases that proved not to be diphtheria. It would be an easy matter for the health board to have cultures made. A culture should be made twice during the course of the disease—at the time the injection is made and again before the case is discharged and the child allowed to mingle with other children. I have not used antitoxin as an immunizing agent. I have injected it in five cases of diphtheria. I would immunize cases where I found bacilli in the throat. Recently, in a report from Munich the weight of opinion was not in favor of immunizing children. There is no agreement as to the length of time immunity lasts. The effect upon the health of well people has not been thoroughly studied. In large hospitals twenty-five to thirty per cent. of the cases suspected as being diphtheria are not. Positive gain would be derived by making a culture before the case is discharged. Preventive medicine is the thing of the future. Diphtheria seems to be one of the diseases which spread by personal intercourse. In London it has been found that diphtheria is more prevalent during school terms. I think the health office makes a mistake in letting children go out too early. In Detroit, I believe, the time of detention is only one week. The theory regarding the action of antitoxin now is that it works in the manner of nature, and that it confers upon the cell body the power to withstand the effect of diphtheria. I cannot understand why antitoxin is not more generally used. Reports of its use in twelve thousand five hundred cases have been made, and no doctor has stated that it caused death. In this city are two hundred doctors but very few have used it. DOCTOR WELCH, of Johns Hopkins—a very careful observer—recently reported about seven thousand cases, and stated that the mortality had been reduced fifty to sixty per cent. by the use of antitoxin. He says it is our duty to use it. WELCH states that antitoxin does not produce nephritis. A Boston man reports nephritis in eighty per cent. of eighty or ninety cases immunized.

DOCTOR WATSON: In regard to nephritis, the Professor of Pathology in the New York Polyclinic, states that antitoxin does produce nephritis, and that it is responsible for many deaths. About a year ago, I said that I expected no practical results from antitoxin, and in five years I think it will be looked upon as a relic of barbarism. The severity of diphtheria differs with different years the same as with all contagious diseases.

DOCTOR BIGHAM read a condensed report of cases reported by DOCTOR WELCH, collected from all sources.

DOCTOR SPENCER: DOCTOR KING embodied the results of all our experience. I wish to take issue with DOCTOR JOHNSTON on the question of immunizing. An ounce of prevention is worth a pound of cure. In houses where children have been exposed, I think it wise to use preventive measures.

DOCTOR DALES: A year or so ago, I had three cases of diphtheria. Two case were treated in the ordinary way and one died. A young lady treated with antitoxin recovered. I do not agree with DOCTOR JOHNSTON concerning the contagiousness of diphtheria. I think it about as contagious as scarlet fever.

DOCTOR JOHNSTON: In the last few months I have seen many cases of tonsillitis and pharyngitis but not one of malignant diphtheria. Two cases seemed like diphtheria. I believe in antitoxin fully. There is no mistake about its value. It is well to apply the culture test at the beginning and also at the close of the disease.

DOCTOR DROSTE: I have never used antitoxin. I think it is a valuable remedy but that it is nothing more than a stimulant. I had five cases in one family. The first one died. If antitoxin had been used, I would have thought the recovery of the other one due to antitoxin. Antitoxin will have the same -

effect as whisky. Plenty of cases get well without any treatment. There is a difference between membranous croup and diphtheritic croup.

Doctor Joy: One method of making a diagnosis is by bacteriological examination. There is a catarrhal croup which is not diphtheritic. Results on the continent of Europe have been favorable to the use of antitoxin. Mortality has been reduced from fifty per cent. to fifteen per cent. In England and Scotland the results are less gratifying. Lennox Brown does not believe in it. English statistics are unreliable because the best antitoxin was not used. In Scotland statistics are better. The disease must be true diphtheria if we are to get any good results, and must be treated within twelve or fifteen hours after the onset to get good results.

Doctor Johnston: I do not wish to be understood as being against immunization.

Doctor Bradfield (Health Officer): The Board of Health must confine itself to its appropriation. Preventive medicine is largely in the hands of the council. Our enactments are not as liberal as in Detroit. Isolation has up to this time been used. It is one thing to urge isolation and another thing to enforce it. More deaths occurred this year from diphtheria than last year. I do not expect much from antitoxin. Some pronounced cases, where the membrane is thick, do well under it. I would use it on a child of my own. Physicians must aid the Board of Health. The Board of Health should have the power to act and not be dependent upon the council.

Doctor King: From June 1 to September 15, there were no deaths from diphtheria or membranous croup: there is no difference between them. I do not think that albuminuria is common after the administration of antitoxin. We cannot learn much from twenty-five cases. We cannot diagnosticate diphtheria by the sense of smell. Tonsillitis may smell just as bad. A very small affection of the throat will produce nephritis, even if it is not diphtheria. Fumigation must be thorough to do any good.

EDITORIAL ARTICLES.

EARLY RISING AND INSANITY.

The superintendent of a large insane asylum—one whose opportunities for observation and generalization are exceptionally good—has discovered, as he thinks, a causal relation between early rising and insanity. The data upon which this opinion is based are varied. Asylum statistics indubitably prove a preponderating tendency to mental alienation among the agricultural classes. To their hard work and monotonous life has been attributed this tendency heretofore, but now it is proved to be due to early rising. Country life otherwise is healthy. The farmer has abundant fresh air and is free from the vitiating enticements and allurements of city life; yet he goes mad.

There would seem to be but one explanation of the harmful effects of early rising—insufficient rest. It would have appeared from such knowledge of rural life as we possess, that there would be plenty of time for repose. Farm houses are usually closed by 9 o'clock in the evening, even if the occupants be astir by four. Those who diminish the hours that fate has given them to forget, or who have spent them in the remembrance of other things, notably those who indulge in frequent nocturnal dissipation, should surely be as liable to the effects of curtailed rest as the farmer who may hurry in the morning perhaps to greet his passive sheep, but is otherwise not unduly excited by the vicissitudes of bucolic existence.

ANNOTATIONS.

POSTURE IN ANESTHESIA.

In cases of asystole it is very dubious whether the ordinary method of raising the trunks and legs is not a mistaken one, not only because increasing thoracic blood pressure adds to the embarrassment of a dilated heart, but because the custom also allows the abdominal viscera to roll against the diaphragm. In impending syncope light walking often relieves more than lying down does.

A NEW THEORY OF GOUT.

An original theory of gout and the "uratic diathesis" has been suggested in a paper recently read by **Kolische** before the Society of Physicians of Vienna. The "uratic diathesis" is, according to **Kolische**, a typical form of auto-intoxication, consisting in some disturbance of the physiological process of nuclein decomposition, whose last products are uric acid and the substances of the xanthin group. Increased decomposition of nucleins and increased production of the bodies formed constitute clinically the "uratic diathesis." **Kolische** has produced, by injections into the circulation of animals of the substances referred to, lesions similar to those of gout. At the beginning of the gouty diathesis an excess of uric acid is formed in the kidneys and the amount of bases increased. Early diagnosis of gout can be made with the microscope, which shows **Neusser's** perinuclear granulations. **Kolische** explains successfully by his theory the various symptoms and phases of the gouty disposition.

HARPER HOSPITAL, DETROIT.

In these days, when hospitals are so often unduly multiplied it is gratifying to find an institution which pays its way and shows a surplus. The management of Harper Hospital are to be congratulated upon their last annual report. The hospital has evidently been well and economically conducted. Increased benefactions in the future will undoubtedly further contribute to the growth of this charity and make the institution a boon to the poor and worthy sick.

A CASE OF TRANSPLANTATION OF THE TEETH.

Doctor E. S. **Pettyjohn**, of Alma, records a case of successful transplantation of the teeth. He writes: "My little daughter, aged two years and nine months, fell headlong down the cellar stairs and struck the two upper middle incisors on the edge of the step, extracting them as completely as if by forceps. The alveolar processes of the right tooth were fractured and the gum lacerated the entire length of the root. After the fright and the crying, which continued a half hour or more, the child was rocked to sleep in her mother's arms and placed in her buggy. We found the teeth on the cellar steps uninjured. They were placed in a normal saline solution of tepid temperature. On the arrival of an assistant with the chloroform for anesthesia the child was sleeping quietly. Chloroform was administered without the child awakening and the teeth were placed within their sockets and pressed into position, the edge of each tooth fitting firmly in a groove of one blade of a forceps, the hand of the operator being placed on the back of the head with the pressure properly directed. The gums about were cleansed antiseptically and the teeth left in position without further dressing or application. The accident occurred about 2 o'clock and when the child awoke from her sleep at 5:30, her teeth were in place. The teeth had been out of the mouth fully one hour. Milk and soft food were administered and the lacerated gums cleansed after eating. Healing of the gums occurred by first intention. It is now over four weeks since the teeth were placed and they are now solid, in good position and of normal color. The gums are normal in color and consistency and the appearance of the mouth quite natural. I report this as a successful case of transplantation of teeth that had been out of the mouth over an hour, and as another demonstration of chloroform anesthesia during natural sleep."

CONTEMPORARY.

THE TEACHING OF MEDICINE.

[THE PHILADELPHIA POLYCLINIC.]

As the requirements of medical schools demand a more comprehensive preliminary education, increased resources and greater expenditure now than formerly on the part of the student, so the teacher must not be satisfied unless his methods of teaching, equipments and qualifications are equivalent to the demands of the times.

We read many articles in the medical journals about advanced medical standing, additional studies, lengthening of the courses and other increasing demands being made on the end-of-the-century medical student, but we read and hear very little of the contemporary and equivalent advances on the part of the teacher.

We are glad to note the tendency among medical schools to discard the traditional, time-wasting, didactic lecture, and to devote each year more time to laboratory and bedside instruction. The theory and principles of medicine are best taught in the lecture room; the fundamentals of allied branches of science, such as physics, chemistry, et cetera, in the laboratory; but the knowledge of disease, the ability to distinguish one disease from another and the value of medicines, can only be learned by personal contact between student and patient in the hospital, and student and body in the dead-house.

Didactic lectures, then, on the practical branches of medicine, should be modified and restricted to the presentation and explication of those points that cannot be gained at the bedside or from text-books. So-called clinical lectures which are different only in that an individual, said to represent a certain disease (and it might often be that or any other) is brought before the class, can, in our opinion, maintain their exaggerated prestige but a few years longer. The true clinical lecture, in which the teacher exhibits before a large class, as before a small one, methods of inquiry and observation in the development of a diagnosis —such lectures as Professor DaCosta is so happy in—must always be of great use.

Clinical surgery is scarcely more illustrative or instructive than the misnamed variety of clinical medicine. No student ever learned an operation by watching the backs of the professor and his clinical assistants.

The teacher of to-day is the graduate of the past when ancient methods were in vogue. His success can in no sense be attributed to the two or three years spent in college, but to his opportunities to acquaint himself with the practical manifestations of disease and to his industry and energy in availing himself of them and the diligence with which he follows current medical literature.

The young practitioner of to-day is better equipped by reason of the facilities for hospital practice either as an interne or postgraduate student, to prevent and check disease and to present himself to the public qualified in other ways than by his license.

The teacher's true province is to instruct, not to lecture; to demonstrate, not to describe; to forget himself and remember only his subject and the needs of his audience.

THE DISPENSARY EVIL.

[THE DOMINION MEDICAL MONTHLY.]

We can see no reason why a doctor should be expected to give his time and services to the public any more than a lawyer or a member of any other profession. The clergyman receives a stated salary and is not dependent on his own exertions for a livelihood and has regular hours, but the physician must be at the beck and call of every charitable institution in the city. In theory, his time is devoted to the practice of medicine, by which he earns a livelihood; in fact, every spare minute is devoted to giving his services free and doing everything he can to injure his own and his brother practitioner's finances. In no other walk of life, in no other profession, does such a ridiculous state of things exist.

MEDICAL NEWS.

PSYCHOGRAPHIC PHOTOGRAPHY.

W. Inglis Rogers announces the marvellous achievement of photographing retinal impressions. Two experiments are reported, and the objects photographed were an English shilling and a postage stamp, one sitting having been performed alone, and the other in the presence of several observers, among them being a physician. In each instance the object was placed in a strong light, and the experimenter gazed fixedly at it for about one minute, the image meanwhile being reflected upon the retina. The light was then occluded and the test object supplanted by a rapid photographic plate, upon which the eyes were directed for about twenty minutes, the thoughts being concentrated upon the object previously subjected to retinal impression. The plates were developed in the ordinary way, and reproductions of the psychograms produced. The prints of the shilling showed an ill-defined circle on the plate. The prints of the postage stamp showed that "two impressions were obtained, one from each eye, and at respectively the same distance from each other as the eyes." In this case the impressions transferred from the retina to the plate bore a distinct resemblance to the postage stamp. The plate was somewhat larger than the one first used, and during its substitution for the object the eyes were kept closed. The experiment is susceptible of trial by anyone.

THE SEROTHERAPY TREATMENT OF CANCER.

ANOTHER report has lately been rendered on the serotherapy treatment of cancer by Doctors Hericourt and Richet. The period of time covered by their observations extends from April to September, 1895, and their experience has been that while the treatment does not cure cancer yet it ameliorates the condition to a degree unequalled by any other method of therapeusis. The injections are soon followed by a diminution of pain in the tumor, the ulcerations decrease, thereby obviating the tendency to hemorrhage, the size of the tumor is reduced, the general health improves, and the evolution of the disease seems retarded, but after the lapse of about two months the symptoms peculiar to the malady gradually recur.

THE NEW LOCAL ANESTHETIC.

DOCTOR THEOPHILUS PARVIN, of Philadelphia, recently read a paper before the County Medical Society, in which he discussed Schleich's method of producing local anesthesia by subcutaneous and parenchymatous injections of weak cocaine-morphine solutions. A practical demonstration of the efficiency of this anesthetic preparation was afforded by the doctor allowing an incision one inch in length to be made in his forearm and to be sutured under its influence. The procedure was absolutely devoid of pain. Doctor Parvin predicts a great future for this method in surgery, and declares that at least fifty per cent. of the operations now performed under general anesthesia will ultimately come within the pale of this method, it being suitable even for major operations.

THE DAWN OF THE MILLENIUM.

THE future relation of the kinetograph to the clinic has recently been considered by a French contemporary, and the writer has shown that university extension organizations will have a great opportunity to render service whereby clinical teaching can be wonderfully simplified. Kinetographic illustrations of clinical cases may be prepared, distributed throughout the country, and sold to undergraduates at a small sum per dozen. The duties incumbent upon the professor will merely involve the delivery of lectures at a kinetograph and the simultaneous exhibition of patients to the revolving discs of the photographic machine. The student will simply be required to read the lectures and look at the pictures, and it is expected that this method of instruction will qualify him to diagnose any condition or disease encountered in active practice. This innovation will doubtless mark the dawn of the millenium for rural colleges with meagre clinics.

ANENT THE HOMEOPATHIC QUESTION.

THE Supreme Court has sustained the legality of the Governor's signature to the bill authorizing the removal to Detroit of the homeopathic department of the University of Michigan. It will be remembered that the Board of Regents declined to comply with the enactment on the ground that it was unconstitutional, the executive signature not having been affixed thereto within the specified time. It is thought that the regents will now claim they are a constitutional body with supreme power over the destinies of the university, and therefore not amenable to legislative acts. This attitude would necessitate the submission of another question to the Supreme Court for decision, and although the outcome of such an issue is entirely problematical, nevertheless it is prognosticated that extralegislative powers would not be conferred upon the board. In the meantime the legislators, whose edict has been treated with contempt, are taking notes, and when the next session occurs the regents may find that the ardor for voting appropriations to conduct the university has suffered a lamentable depreciation.

ANOTHER SERUM ANNOUNCED.

DOCTOR MARMOREK, of Vienna, claims to have succeeded in cultivating a healing serum which promises great efficiency in erysipelas, infectious bronchitis, infectious connective-tissue inflammations, puerperal infection, and more especially postmortem wounds and infectious punctures inflicted during surgical operations. After a protracted series of experiments extending over a period of four years, the doctor, who, by the way, is a young man, has developed this product from the streptococcus, the method of procedure having been somewhat akin to that adopted in preparing antitoxin for diphtheria. A number of investigations have been conducted at the Pasteur Institute, and leading Parisian physicians who observed the action of the preparation declare the results attained entirely satisfactory. Among the medical men personally testing the serum were Doctors Chautemesse, Bar, Cuffer, Pozzi, Sevestre, and Dieulafoy, the former clinician reporting a mortality of 2.59 per cent. in 500 cases of erysipelas as against 3.79 per cent. in 554 cases treated by the most approved methods minus the serum injections. A marked improvement is noted in the general condition of the patient several hours after the administration of this new remedy.

MINOR INTELLIGENCE.

WITH this number The Physician and Surgeon begins its eighteenth year.

A CONFEDERATION of State medical examining boards is contemplated.

NEW YORK CITY has 3,000 physicians, 600 of whom are native Americans.

THERE are thirty politico-medical positions in Baltimore to which physicians are eligible, the salaries ranging from $400 to $3,000.

THERE are fourteen vacancies in the medical department of the navy. When the ranks are filled the department consists of 170 members.

DOCTOR F. A. COLBY, of Berlin, New Hampshire, has written a letter in which he questions the advisability of physicians wearing beards.

DOCTOR GODFREY HUNTER has been elected United States Senator from Kentucky.

THE Royal College of Surgeons of Edinburgh, has a new president—Professor Struthers.

TYPHOID FEVER is reported in fifty towns out of one hundred and sixty-eight in Connecticut.

DOCTOR JAMES E. REEVES, of Chattanooga, Tennessee, died on the 4th instant, aged sixty-seven years.

SEVEN Red Cross Hospitals have been organized in Cuba by Doctor A. J. Dyiaz, an American missionary.

THE third International Congress of Psychology will convene in Munich on August 4, and continue in session three days.

A BILL to regulate the practice of medicine in the District of Columbia has been introduced into the United States Senate.

THE selection of an emergency army ration is the duty to be performed by a board recently appointed by Secretary Lamont.

DOCTOR G. LEWIN, of dermatological fame, recently participated in the celebration of his golden jubilee under the auspices of the Berlin Dermatological Society.

PARIS has adopted the practice in vogue in New York and Berlin of issuing cards to physicians giving them the right of way through crowds and cordons of police.

DOCTORS ROUX and BEHRING have been awarded the 50,000-franc prize of the L'Academie des Sciences for the discovery of an efficacious treatment for diphtheria.

DOCTOR MULLER, the first German professor at the Tokio Medical College, was recently memorialized in the form of a statue erected by the Japanese Government.

PROFESSOR KONIG will be director of a new surgical polyclinic soon to be operated in connection with the Berlin University. Professor Hildebrandt has been elected chief surgeon.

PROFESSOR PIERRE CH. FAUVEL, of Paris, died on the 17th ultimo. This distinguished physician had earned an enviable reputation through his writings on nasopharyngeal diseases.

THE Academie des Sciences has elected M. Lannelongue to membership in place of the late Professor Verneuil. The member elect is professor of surgery in the faculty of medicine in Paris.

DOCTOR DONALDSON SMITH, an American engaged in exploring Africa, has succeeded in reaching Lake Rudolf. He made his entry from the north, and is the first white man to visit this region.

As the result of the careless prescribing of morphine by a physician the death of an infant recently occurred in New York. A messenger misrepresented the condition of the patient and a full dose of the drug was directed with fatal result.

Doctor John Ridlon, of Chicago, will have a paper on "Club-foot" in our February issue. It will be an exhaustive treatise upon the subject, and will be elucidated by thirty-six illustrations.

Doctor William Sutherland Connery, of Saginaw, Michigan, was recently married to Miss Lillian Clark of the same city. The doctor is a graduate of the University of Michigan, class of 1889.

England has between 30,000 and 40,000 epileptics. The National Society for the Employment of Epileptics has recently established an epileptic colony which is designated the Passmore-Edwards House.

The University of Oxford has honored Sir Henry Acland by a testimonial. In recognition of valuable services to science and hygiene this gentleman has been presented with a bust and a fund of $15,000.

The Lakeside Hospital, of Cleveland, will hereafter be conducted under the auspices of the Western Reserve Medical School, and the patients of this institution will be utilized for purposes of clinical teaching.

The Governor of Missouri is being petitioned by the women of that commonwealth to refrain from appointing unmarried men as resident physicians at the various hospitals for the insane throughout the state.

Doctor George Dock, at present Professor of Practice of Medicine and Pathology in the University of Michigan, has recently been elected Professor of Pathology and Bacteriology in the Jefferson Medical College.

The state care of the city insane was recommended in the recent message of Governor Morton to the New York legislature. A bill contemplating the innovation has already been presented for the consideration of the legislators.

Doctor Haffkine, who has been vaccinating against cholera in India, recently stated in an address delivered in London, that in twenty-nine months he had made 70,000 injections on 42,179 persons, no deleterious effects resulting.

Doctor E. G. Boyd, of Leadville, Colorado, has devised an improvement of Wright's snare. "The improvement consists of a barbed needle extending from spring catch of snare to within one-quarter of an inch of the end of canula."

Doctor John S. Billings, who was recently appointed to the chair of Hygiene in the University of Pennsylvania, has been appointed librarian of the New York Public Library. There are 360,000 volumes in this library, and property aggregating several millions.

Here are the names of some of the physicians who are dosing for royal ducats: Doctor Zakharin—Czar of Russia; Doctor Saghone—King Humbert, of Italy; Doctor Bergmann—Emperor William, of Germany; Sir William Broadbent—Queen Victoria, of England; Doctor Von Widerhofer—Emperor of Austria; Doctor Kitasato—Mikado, of Japan.

Doctor Robert M. Elliott, of Rochester, New York, has been appointed medical superintendent of the Kings County State Hospital for the Insane. The appointee has had five years' experience as assistant in the Rochester hospitals. Doctor T. E. Branford, of New York City, was the first choice of the State Board of Lunacy Commissioners but he declined the appointment.

DOCTOR THOMAS S. POWELL, of Atlanta, Georgia, founder of the Southern Medical College, died on the 30th ultimo. He was a native of Virginia, had practiced in Atlanta forty years, and was president of the college at the time of his demise.

DOCTOR THOMAS TAYLOR, of Washington City, has been honored by the International Society of Hygiene. In recognition of valuable investigation of butters, fats, and mushrooms in the United States, a gold medal has been awarded him.

THE value of a human life has recently been estimated at $7,500 by at New York court. A Brooklyn man sued a trolley company for damages, his wife having sustained injuries which terminated in death. The jury awarded the amount stated.

PROVISION was made by the last Illinois legislature for the establishment of another hospital for the insane. It will be designated the Illinois Western Hospital for the Insane, and an appropriation of $100,000 has been made for the purchase of a site.

THE MEDICAL NEWS is now issued from New York and the editor is Doctor J. Riddle Goffe. The journalistic profession will unite in deploring the loss of Doctor George M. Gould from their ranks, and it is hoped his withdrawal from editorial work will be but temporary.

REPRESENTATIVES of the Italian and the Austro-Hungarian governments are about to hold a cholera conference in Vienna. Measures will be considered for conjoint adoption at the frontiers of these two countries in the event of an outbreak of cholera in either domain.

THE Chinese emperor has honored a Japanese surgeon. When the Chinese plenipotentiary, Li Hung Chang, had been assaulted at Simonoseki, his wounds were dressed by a surgeon who has just had conferred upon him the Order of the Double Dragon, Third Civil Class.

WOMEN may now become doctors, chemists, and professors in Hungary. The Emperor Francis Joseph has decreed that they be admitted to the medical and philosophic faculties of the Hungarian universities, providing permission be first obtained from the Minister of Justice.

TWENTY-NINE CENTS A VISIT.—In Baltimore a large store sells tickets for twenty-nine cents a piece. These entitle the purchaser to a visit day or night from "one of Baltimore's prominent doctors, a graduate of the Maryland University, who has practiced among you for eleven years."

THE cattle on the farm of the Norristown Hospital for the Insane are threatened with another outbreak of tuberculosis, if, indeed, it has not already appeared, the steward having reported to the trustees that seven cows were slaughtered for beef last month, that manifested symptoms of the disease.

AN Eastern contemporary suggests that the meaningless term "puerperal fever" be relegated to oblivion, and that the more definite expression "puerperal infection or "puerperal sepsis" be adopted in lieu thereof. It says that any form of febrile disorder may occur during the puerperium, and that the term "puerperal fever" does not always express the condition specifically.

Doctor Stephen Van Rensselaer Bogert, died on the 10th instant, at Livingston, Staten Island, aged ninety-one years. He graduated from the Western New York College of Physicians and Surgeons, was at one time Governor of Sailor's Snug Harbor, and was the father of the present Medical Director of the United States Navy.

Doctor D. E. Brooke, of Windsor, Ontario, was recently found dead in his office. He was thirty-nine years of age, a graduate of the Toronto Medical School, and had practiced in Windsor about six years. He began his professional career at New Hamburg, where he spent ten years. Death was attributed to hemorrhage.

The University of Chicago has recently been enriched $1,000,000 by Miss Helen Culver. The gift will be devoted to biological teaching and investigation. Mr. John D. Rockefeller has promised the institution $2,000,000, and it is whispered that these magnanimous donations will probably be utilized in organizing a medical school.

The Chicago Health Department has organized an emergency corps whose duty is to fight the spread of diphtheria. The disease will be treated as an epidemic, and strenuous efforts made to eradicate it. The warfare will be carried on by a corps of fifteen physicians and a chief who are requested to inject antitoxin and perform intubation and tracheotomy.

Sir Joseph Lister is the newly elected president of the Royal Society. This honor is said to be prized above all others by British scientists, and Sir Joseph is the second surgeon to receive the distinction, succeeding Lord Kelvin. The other surgeon, Sir Benjamin Brodie, held the position about thirty-five years ago. He had been a member half a century when elected.

The fifty-first semiannual meeting of the Northwestern Ohio Medical Association was held at Findlay, on December 13 and 14, 1895. The officers elected for the ensuing year are: President, Doctor W. V. Newsom; first vicepresident, Doctor D. A. Smith; second vicepresident, Doctor T. J. Meyers; secretary, Doctor R. P. Izlar; treasurer, Doctor W. R. O. Veal. It was decided to hold the next meeting at Defiance.

In the present issue another medical guild is introduced to our constituency. A discussion by the Wayne County Medical Society, an organization composed of about 150 members of the profession from Detroit and other county towns, is published elsewhere. The Physician and Surgeon has been made the official organ of this society, and henceforth the papers and discussions presented at its meetings will be published in these pages. The Wayne County Medical Society had its inception in 1876, convenes weekly, and is in a very prosperous condition.

Doctor J. N. Bell, of Detroit, reports several cases of poisoning by stewed (canned) oysters. The symptoms were incessant vomiting and griping pains in the abdominal region. The treatment consisted of subnitrate of bismuth, hypodermic injections of the sulphate of morphine, and energetic catharsis. Recovery ensued within twenty-four hours. A little girl who had partaken of the broth only was not even nauseously affected. This would seem to indicate that the toxic principle was not developed in the process of canning, but that it was undoubtedly contained in the oyster.

Doctors Ducazal and Catrin have been conducting a series of experiments for the purpose of determining the possible danger arising from the use of infective books. They have concluded that volumes contained in hospitals and libraries transmit Klebs' bacillus and the streptococcus, and that Koch's bacillus and the pneumoccoccus are incapable of transmission. New books were not infested with pathogenic microbes.

Doctor Frankel, who has been exploring the thyroid gland, after a ductless hunt across the isthmus, finally obtained reward for the fatigue incident thereto by encountering a substance which he christened thyreoantitoxin. It is inodorous and tasteless, and the doctor has given it the chemical formula $C_8H_{11}N_3O_5$. Inasmuch as it produces rapid emaciation the inference obtains that it embraces the active principle of the thyroid.

The General Assembly of Connecticut has enacted a law prohibiting any person from keeping a maternity hospital without a license therefor issued by the mayor, or board of health, or health officer of the place where it is desired to establish such hospital. The law further specifies that a record of the inmates, births, deaths, discharges, et cetera, must be accurately kept and its inspection rendered accessible to the authorities.

Doctor Dickson L. Moore, of Columbus, Ohio, has invented a new anesthetic holder. It may be conveniently attached to any operating table. It consists of a ring attached to one end of a horizontal bar. The other end of the bar is adjusted to the table. The ring is made in two sizes—one for chloroform and the other for ether. The bottle rests in a muslin stocking which is sewed to a wire ring somewhat larger than the main ring to prevent it falling through.

The Austrian country physicians have adopted a new scale of prices. An office visit is now scheduled at 15 cents; the first visit to a patient's home has been raised to 30 cents; each subsequent visit, 25 cents; night calls, 60 cents; setting a fracture, $2.25; major surgical operations, the term contemplating amputations and the like, $6.00 to $9.00; hypodermic injection, 20 cents; antitoxin injection, 80 cents; bacterioscopic examination, 80 cents. These amounts are the equivalents of Austrian money.

RECENT PUBLICATIONS.

REVIEWS.

CUTANEOUS MEDICINE.*

The present work has, the author tells us, been written to take the place of the author's former practical treatise on "Diseases of the Skin," which for several years has been out of print. The work promises when completed to be a valuable addition to our present dermatological manuals. The text is clearly written and amply illustrated, and the whole field of dermatology will be traversed by one whose reputation entitles him to speak with authority.

*A Systematic Treatise on the Diseases of the Skin. By Louis A. Duhring, M. D., Professor of Diseases of the Skin in the University of Pennsylvania, et cetera. Part I. Illustrated. J. B. Lippincott Company, Philadelphia, 1895.

MATERIA MEDICA AND THERAPEUTICS.*

THE third edition of this valuable work in one volume is now revised. Those familiar with it in the past will not be surprised that DOCTOR SHOEMAKER's effort has stood the test imposed by time. The new edition contains articles on the newest of our therapeutical acquisitions. The article on "Animal Extracts and Secretions" is an admirable example of the modern clinical spirit pervading the volume. There can be no doubt that students will be attracted to this manual as much in the future as in the past.

*A Practical Treatise with Especial Reference to the Clinical Application of Drugs. By John V. Shoemaker, A. M., M. D., LL. D., Professor of Materia Medica, Pharmacology, Therapeutics, and Clinical Medicine, and Clinical Professor of Diseases of the Skin in the Medico-Chirurgical College of Philadelphia; Physician to the Medico-Chirurgical Hospital, Philadelphia, et cetera. Third edition, thoroughly revised. Reset with new type and printed from new electrotype plates. Royal octavo, pages ix, 1108. Extra cloth, $5.00 net; sheep, $5.75 net. Philadelphia: The F. A. Davis Company, Publishers, 1914 and 1916 Cherry street.

THE ANNUAL OF THE UNIVERSAL MEDICAL SCIENCES.*

THE excellence of the "Annual of the Universal Medical Sciences" is fully maintained in the last issue. There are several notable articles, and it is doubtful if anywhere can be found better critical reviews of the year's literature than are found throughout the series. The article on "General Therapeutics" from the pen of Dujardin-Beaumetz acquires additional interest from the fact of its being the last contribution to medical literature its distinguised author made.

The typographical work has been excellently done. The illustrations are numerous, and the "Annual" will find its popularity deservedly undiminished.

*A Yearly Report of the General Sanitary Sciences Throughout the World. Edited by Charles E. Sajous, M. D., and seventy associate editors. The F. A. Davis Company, Philadelphia.

MODERN MEDICINE AND HOMEOPATHY.*

THE addresses of Doctor Roberts concern themselves with the relation of regular medicine to homeopathy. The intent is a pacific one and the addresses have been published "in the hope that some members of the medical profession may find in them reasons for abandoning a sectarian name, and that others may see the impropriety and folly of proscribing those whose opinions conflict with their own."

*By John B. Roberts, A. M., M. D. Price, 75 cents. The Edwards & Docker Company, Philadelphia.

OUTLINES OF MATERIA MEDICA AND PHARMACOLOGY.*

THE volume before us appears to be an admirable example of a text-book, when the subject of which it treats is to be amplified by descriptive and demonstrative lectures. The essentials of materia medica and pharmacology are most concisely epitomized. All superfluous description is avoided, and we cannot conceive of a more useful manual to the busy student.

*A Text-Book for Students. By H. M. Bracken, M. D., Professor of Materia Medica, Therapeutics and Clinical Medicine in the University of Minnesota. Price, $2.75. P. Blakiston, Son and Company, Philadelphia.

The Physician and Surgeon

A JOURNAL OF THE MEDICAL SCIENCES.

VOLUME XVIII. FEBRUARY, 1896. NUMBER II.

ORIGINAL CONTRIBUTIONS.

MEMOIRS.

CLUB-FOOT.

BY JOHN RIDLON, M. D., CHICAGO, ILLINOIS.

PROFESSOR OF ORTHOPEDIC SURGERY IN THE NORTHWESTERN UNIVERSITY MEDICAL SCHOOL; SENIOR ORTHOPEDIC SURGEON TO SAINT LUKE'S AND MICHAEL REESE HOSPITALS; MEDICAL DIRECTOR OF THE HOME FOR DESTITUTE CRIPPLED CHILDREN.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

CLUB-FOOT, or TALIPES, is a distortion of the foot in its relation to the leg. The simple varieties are equinus and calcaneus, varus and valgus; the compound varieties are equino-varus, equino-valgus, calcaneo-varus and calcaneo-valgus. These deformities may be either congenital or acquired, and when acquired are usually the result of infantile paralysis. Another deformity due to paralysis is cavus, or pes-cavus, as it is more often termed. Still another acquired form, planus, or pes-planus, is due to inherent weakness in the foot, or excessive or long continued weight bearing. It differs so much in its etiology, characteristics, and treatment from both the congenital and paralytic club-feet that it will not again be referred to in this connection, but will be described under a separate heading.

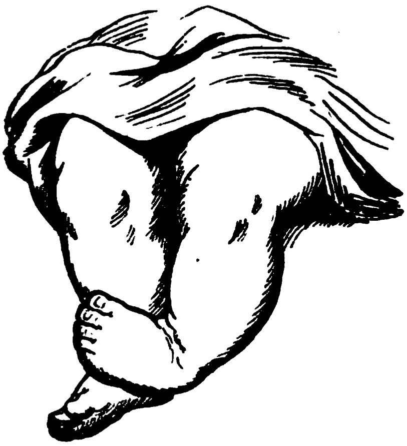

FIGURE I.—Unilateral Congenital Equino-Varus of moderate degree.

Nearly all of the congenital cases present the compound variety, equino-varus; a few present equino-valgus; rarely there is seen a simple calcaneus; of simple equinus I have met with but a single instance; and of simple varus (that is, without equinus) and simple valgus I have seen none. In the writings of the older surgeons frequent mention is made of "talipes varus," but it is the variety now known as equino-varus and not simple varus that is meant.

Of the acquired, or paralytic variety simple equinus is by far the more frequently found; next in frequency we find simple valgus; then equino-varus, calcaneo-valgus, equino-valgus, simple varus, and varus in one foot and valgus in the other. All statistics upon this point are of little value since different writers use these terms differently and often carelessly.

The acquired deformity occurs more than three times as frequently as the congenital form.

As to the relative frequency of the congenital deformity, **Lannelongue** found that in over fifteen thousand births but eight children were born with club-foot, or about one in nineteen hundred.

ETIOLOGY OF CONGENITAL FORMS.

Five theories at least have been advanced to account for congenital club-foot; they are:

(1) The paralytic theory, which received the support of **William J. Little**, the father of orthopedic surgery in England. Because of the similarity between the congenital and the acquired forms it was assumed that congenital deformities were due to the same nerve lesions that produced acquired club-foot. Microscopic examination, however, does not reveal the changes in the brain and cord in cases of congenital club-foot that are demonstrable in the distorted feet due to infantile cerebral, and infantile spinal paralysis. The electrical reactions are not changed from the normal, and the voluntary motion, the color and temperature of the skin and the muscles are quite different from what is found in paralytic club-foot.

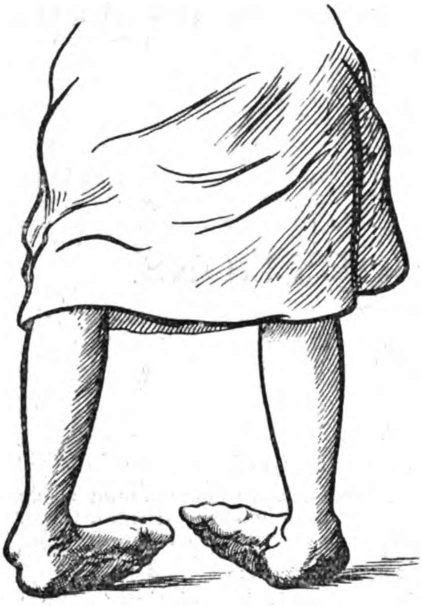
Figure II.—Bilateral Congenital Equino-Varus. Deformity increased from walking in the deformed position.

Further, paralytic club-foot is the result of years of malposition, no case becoming really deformed in so short a period as nine months. In offering the above objections to the paralytic theory we do not mean to say that a case of paralytic club-foot which has been present from birth may not have antedated birth. I believe I have seen one such case: A girl of nine years, the only child of educated and observing people. The deformity was described as a typical double equino-varus, and was present at birth. It had been treated much of the time for the nine years by braces, manipulation and massage. No operation had been performed, and the parents had been warned against an operation by **Doctor Roth**, of London, in whose care the child was for some time. When I saw the case, the appearance of the feet was much as one would expect in a severe congenital case treated as this had been. The varus had

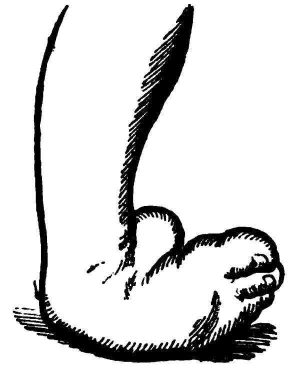
Figure III.—Congenital Equino-Varus of marked degree.

been almost wholly corrected, but the front of the foot was abnormally broad; the foot, however, could be inverted and the head of the astragalus made prominent. A marked degree of equinus was present, indeed the feet could not be extended (plantar flexed) beyond the point where they were habitually held, and dorsal flexion could be demonstrated only to a very slight extent and when considerable force was used. The tip of the os calcis, for the attachment of the tendo-ACHILLIS, was markedly prominent and displaced far inward; the skin and local temperature appeared to be normal; the electrical reactions were not tested. It was assumed that it was a congenital case of the usual type and that the anterior leg muscles would rapidly, if not at once, regain their normal contractility and strength as soon as they were relieved of strain and relaxed. To this end the tendo-ACHILLIS was cut on both legs and the posterior ligaments of the ankle-joints ruptured so that the dorsal flexion of the feet was perfect. Now at the end of sixteen months, although the feet have been retained in the normal position by braces, there has been no return of voluntary muscular control and no gain in voluntary dorsal flexion.

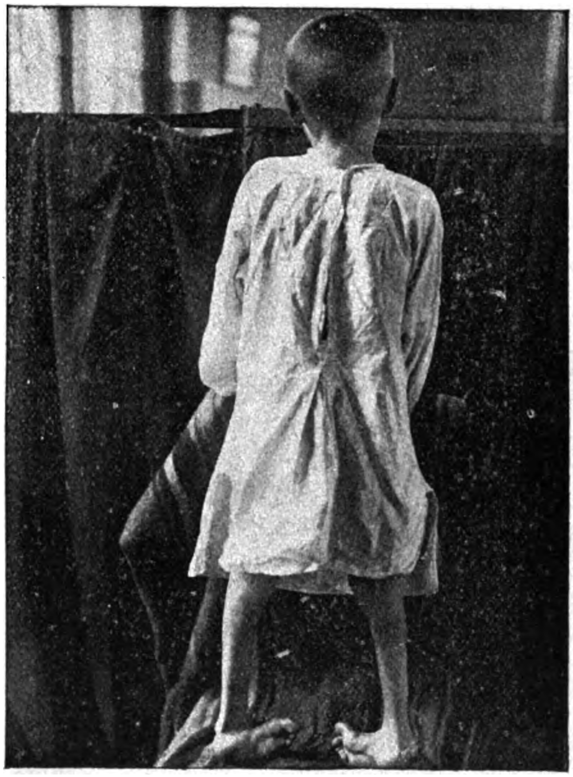

FIGURE IV —Congenital Equino-Varus before treatment.

(2) The second theory is that of abnormal (excessive) uterine pressure. This theory has been supported by most of the older writers and such prominent modern surgeons as VOLKMANN, KOCHER, and VOGT, in Germany, and R. W. PARKER, in England. The objections to this theory are that club-foot is often found in instances where there is known to have been an abundance of amniotic fluid, and absent where the amniotic fluid was scant; in fact, that it bears no relation to the quantity of fluid; that twins have been born, one with, and one without, club-foot; that there are hardly any other deformities that could be accounted for by excessive uterine pressure; and that the frequency of the equino-varus deformity and the infrequency of other club-foot deformities is not accounted for by the theory.

(3) The third theory is the opposite of the last, namely, it is the theory of the lack of normal uterine pressure. This was advanced by LUECKE who called attention to the fact that very many fetuses at some early period of their development present a greater or less degree of inversion of the feet and that this diminishes as full term approaches. He held that the lack of a foothold, so to

speak, against which to kick in those cases where an excessive amount of amniotic fluid was present resulted in the feet remaining in the equino-varus position.

This theory was developed and carried to its logical sequences by H. W. **Berg**, of New York. He says: "As soon as the joints are formed we find the thigh rotated out as far as possible, and flexed upon the body. The leg is flexed upon the thigh, but not completely, for this is prevented by the extreme rotation of the thigh, which brings the inner border of the leg pressed against the abdomen of the fetus, the legs crossing each other a little below the middle. All the intrauterine pressure, therefore, is brought to bear directly upon the outer border of the leg and thigh, and also upon the dorsum of the foot. The result of this is that the foot is rotated in and extended (equino-varus) until the sole is almost on a line with the inner border of the leg, and lies against the body of the fetus, while the dorsal surface of the foot is on a convex curved line with the outer border of the leg, to adapt itself to the concave wall of the uterus. This, I believe, is a stage in the normal development of every healthy fetus; and were the extremities to remain in this position, all children would be born club-footed. But nature provided against this by the outward rotation of the extremity, which gradually takes place, carrying the leg away from the position against the abdomen of the fetus; and when this rotation is completed we find the extensor surface of the thigh flexed and in relation to the body of the child, while the legs are flexed upon the thighs, the inner or tibial borders facing each other. Now the soles of the feet lie against the uterine walls, and the intrauterine pressure is exerted directly upon them. This produced extreme flexion of the foot upon the leg, together with an outward rotation of the foot; this movement, from the constitution of the ankle-joint, accompanying extreme flexion. Thus is antagonized the varus or equino-varus existing hitherto. It is evident, then, that upon the completeness of the internal rotation or torsion which takes place in the lower extremity, depends the rectification of the early varus of the foot. Should this rotation not take place at all, or be incomplete, the foot will continue to maintain its early relation to the body of the fetus and uterine walls, and the child will be born more or less club-footed. If this be so, we should expect to find

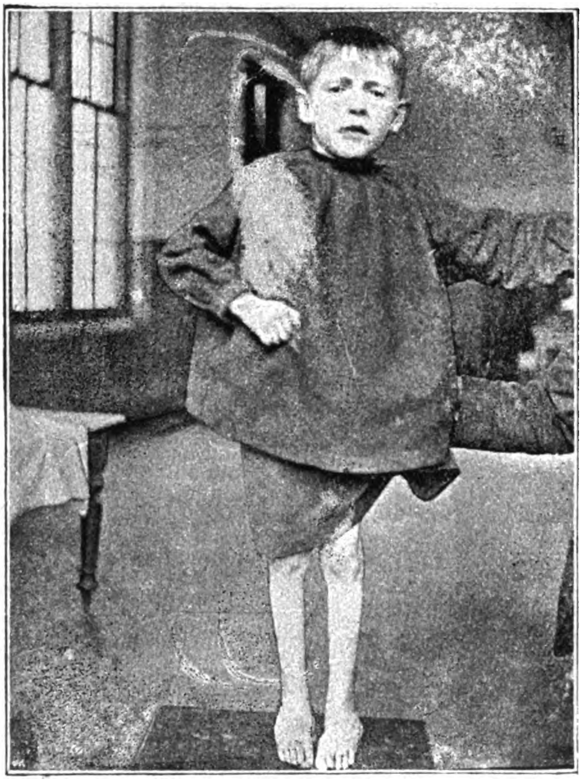

Figure V.—Same case after treatment.

in club-footed children that the extremities are rotated outward. And this we do find upon examination. In all of the cases of congenital club-foot (equino-varus) which I have seen since my attention has been directed to this subject, I have found that the thigh and leg, as a whole, were rotated out, and the tibia bent at its lower part, so that the feet are approximated to each other in addition to being in the clubbed position. All this is seen to be the result of nonrotation of the leg."

The chief fault in **Berg**'s theory is that it only accounts for equino-varus; and it is probable that at the time **Berg** wrote his paper he had never seen any other form of congenital club-foot.

At the time of the writing of his paper **Berg** was an assistant surgeon, having charge of the electrical treatment of the paralytic cases, in the New York Orthopedic Dispensary. The writer was also an assistant surgeon in the same institution and occupied with the mechanical orthopedics. Some few days after **Berg**'s paper appeared, an infant was brought to the institution with the following congenital deformities: Equino-varus, one foot; calcaneo-valgus, the other; and double club-hand. **Doctor Berg** was asked to express an opinion on the etiology and only the foot with the equino-varus was shown; this he readily accounted for by his theory of lack of normal uterine pressure. Then the calcaneo-valgus foot was exhibited and this he accounted for, but with much less readiness, on the intrauterine paralytic theory. Then the clubbed hands were shown, and as these appeared surely to be due to excessive uterine pressure, he refused to offer any theory for their cause and retreated from the field of discussion.

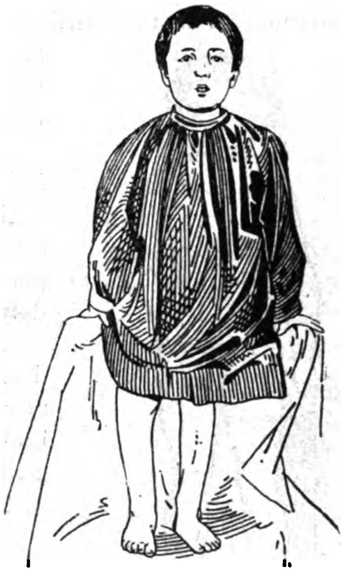

Figure VI. — Unilateral Congenital Equino-Varus after treatment. Some varus deformity still remaining.

(4) The fourth theory, advocated by **Professor Eschricht**, of Copenhagen, in 1851, is that of arrest of development. It is based on the observation that club-foot deformities, like such other congenital deformities, as club-hands, webbed, supernumerary, and deficient fingers and toes, constriction bands, amputations and deficient members and parts of members, harelip, cleft-palate, spina bifida, acephalus and other monstrosities, more frequently are found in males than females, more frequently in children born out of wedlock and in those whose mothers have had unusual worry and anxiety than otherwise; and more frequently in first children than those born at a later period. In support of the above, innumerable instances have been observed and recorded, but I have seen none more extreme controverting the theory than the following: Some years ago in New York a widower, the father of three normal children, met and married a widow, the mother of two normal children. There was no hereditary deformity in either family and these two, man and wife, were in no way related by consanguinity, but the result of the union was three children, all with double talipes equino-varus. This instance would appear to controvert each of the foregoing theories.

(5) The fifth theory is that of heredity, in support of which the account of a French shoemaker, to be found in Valentine Mott's edition of Velpeau's "Surgery," translated by Townsend, may be related. It seems that the worthy shoemaker had double talipes varus, and his first four children all had double talipes varus, but the fifth child was born with normal feet, and the shoemaker accused his wife. Arguments against heredity do not need to be advocated, for cases like the above do not frequently repeat.

In considering all of these theories the only conclusions that can be reached are that an individual case of club-foot may be accounted for by any one, or by several, or by none of these theories, and that in most instances we do not know what causes the deformity.

ETIOLOGY OF ACQUIRED FORMS.

Nearly all of the acquired clubbed-feet are due to infantile spinal paralysis. The foot deformity results from the prolonged malposition and growth in that position. The malposition is due to gravity, to unequal muscular balance, to structural shortening in the healthy muscles and stretching of those that are paralyzed, and weight bearing when the member is used in walking or standing.

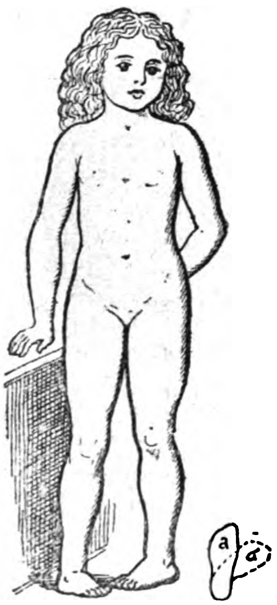

Figure VII.—In-Toe Deformity remaining after correction of the antero-posterior (equinus) deformity and the lateral (varus) deformity.

There are a certain number of distorted feet due to infantile cerebral paralysis. In these cases the malposition arises from the spastic contracture of the muscles, usually those of plantar extension, and the permanent deformity results from growth in the deformed position.

Hysterical club-foot is a subject of interest. The deformity is usually an equinus or equino-varus and resembles in many respects the deformity due to cerebral paralysis. Other cases so closely imitate the congenital deformity that a diagnosis is only made from a history of the case, or the results of treatment.

ANATOMY.

I have seen neither dissections nor descriptions of the anatomy of congenital equinus or valgus.

R. W. Parker reports two cases of congenital calcaneus in which the tendons of the tibialis anticus and extensor proprius hallucis and the anterior ligament of the ankle had to be divided before the foot could be fully extended. In these cases the only change in the bones was in the upper facet of the astragalus, which was displaced somewhat forward.

In acquired deformities of the feet the changes consist only in those alterations of the articular surfaces that arise from the malpositions, and such bony changes as are due to growth in the malpositions. We may then limit our consideration to the changes occurring in congenital equino-varus. These cases differ somewhat inasmuch as the distortion differs in degree in different cases, and description of writers vary somewhat depending upon the case, or cases, dissected by them.

The latest report that I have seen is by Doctor Frank Hartley, of New

York, in *The Medical Record*, August 18, 1894. To it I am indebted for the following description of a congenital case of twenty-two years' standing, the position being that of extreme equino-varus.

There was a large multilocular bursa covering the bearing points of pressure over the anterior process of the calcaneus and the dorso-lateral surface of the cuboideus, and a smaller multilocular bursa covering the neck of the astragalus and the lower portion of the external malleolus.

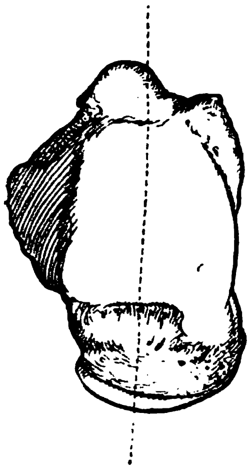
FIGURE VIII.—Normal Astragalus. Showing relation of axis of neck to the tibial articular surface.

The anterior annular ligament was thick and strong. The external annular ligament consisted of a firm, broad band covering the peroneal tendons as they passed to the posterior surface of the calcaneus. The internal annular ligament was well marked but very short. The muscles in the leg and foot were atrophied and had the following relations: The tibialis anticus passed over the lower third of the tibia, from without inward, to the inner surface of the internal malleolus, whence it descended to its insertion. The extensor proprius pollicis passed through a separate compartment of the annular ligament over the inner surface of the internal malleolus, close to and in front of the tibialis anticus. It divided into two tendons which were inserted in the second phalanx.

The extensor longus digitorum passed over the outer third of the anterior surface of the tibia, in a groove bounded by two well marked prominences. It was covered by the annular ligament. It divided into four tendons, which passed obliquely inward over the heads of the first and second metatarsal bones to the four toes.

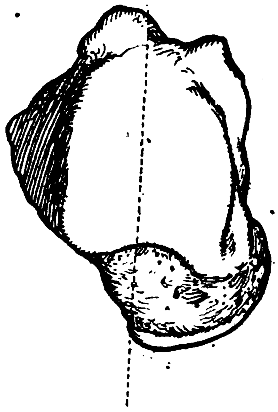
FIGURE IX.—Deformed Astragalus from a case of congenital equino-varus. Showing distortion of neck in relation to tibial articular surface.

The peroneus tertius passed obliquely outward to the base of the fifth metatarsal bone over the cuneiform bones. The extensor brevis digitorum was scarcely observable except for its tendons.

The peroneus longus and brevis passed beneath a strong and narrow band of fascia, extending from the external malleolus to the calcaneus, and representing the external annular ligament, around the external and posterior surface of the calcaneus to their insertions. The former did not touch the cuboid bones. It passed above the level of the anterior processes of the calcaneus obliquely, directed from without downward and inward. The latter after passing over the anterior process of the calcaneus, descended upon the lateral border of the cuboid bone to its insertion.

The tibialis posticus passed to the inner side of the internal malleolus, its posterior border beneath it, and to its insertion.

The flexor longus digitorum passed to the outer side of the tibialis posticus, beneath the internal malleolus, to its insertion.

The flexor longus pollicis passed through a well marked groove in the tibia, external to the flexor longus digitorum, beneath the internal malleolus, and was lost in the muscles of the foot. The relations of the bones of the foot to one another and to those of the leg, were in general as follows:

The position of the calcaneus was one of marked plantar flexion. Its long axis formed with the articular surface of the tibia an angle of eighty degrees, which amounts to forty-one degrees of forced plantar flexion of the foot. Further, the bone was supinated fifty degrees, and adducted about ten degrees. Besides the articular surface for the astragalus, there was upon this surface, just in front of the tuberosity, nearthroses for both the tibia and fibula. That for the former was continuous with the external third of the articular surface for the astragalus, and was situated upon the superior (really internal) surface. That for the latter was situated upon the external (really superior) surface.

The anterior process of the calcaneus was large and prominent. Situated upon the internal surface of the neck of the calcaneus was the articulation for the cuboid.

The astragalus was situated in the angle formed by the bones of the leg and the calcaneus. Its superior surface articulated with the tibia, and was external so far posterior as to be continuous with the inferior articular surface in its outer half of the same surface by a five millimeters strip of nonarticular bone.

The shape of the body was triangular with the apex posterior, and with the superior surface looking upward and the inferior surface looking downward and backward. The neck of the astragalus formed with the body an angle of forty-five degrees for the inward displacement, and of ninety degrees for the downward displacement. Upon the internal surface of the neck is an oval facet for articulation with the scaphoid bone, the long axis of which is placed at an angle of forty-five degrees to the long axis of the neck. The scaphoid bone articulates with the neck of the astragalus only in the external portion of its superior surface; with the internal portion of the same surface it is nonarticular and is bent sharply upon the outer segment. The long (that is, transverse) axis of the scaphoid is nearly parallel with that of the neck of the astragalus. The bone presents two nearthroses. One for the anterior surface of the sustentaculum tali; the other for the internal malleolus at its anterior and inferior angle. The superior (anterior) surface was broad. The inferior was narrow. The external was narrower than the internal. There was no tuberosity present, nor did the bone articulate with the cuboid. The transverse axis formed with the transverse axis of the cuboid an angle of ninety degrees.

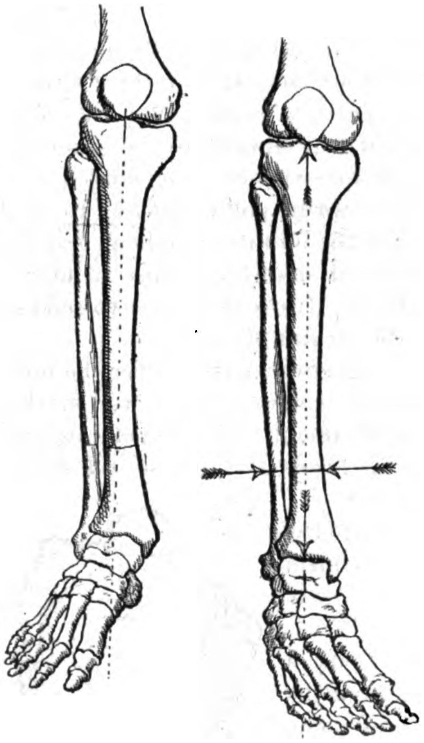

FIGURE X.—The drawing on the right shows the Inward Distortion of the Bones of the Tarsus in Congenital Equino-Varus.

The cuboid bone articulated with the anterior process (that is, neck) of the calcaneus upon its internal surface, in such a manner that the weight of the body was in part sustained by the dorso-lateral surface. There was no sulcus for the peroneus longus tendon, nor was the tuberosity present. The three cuneiform bones articulated with the scaphoid and cuboid in the angle formed by them. Their position was one of marked supination, adduction and approximation of the inner and outer bones toward the plantar surface.

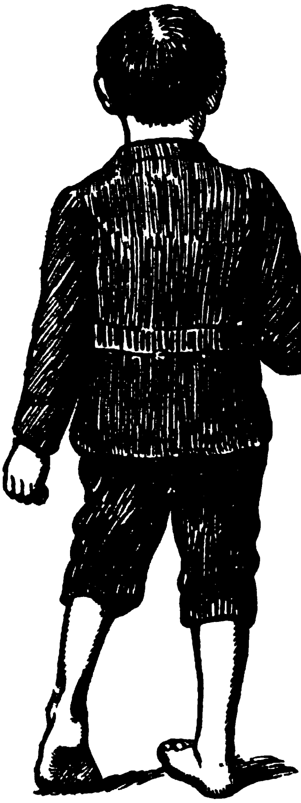
FIGURE XI.—Non-Congenital Equinus.

The tibia and fibula were rotated inward about this long axis with the external malleolus anterior to the internal. Upon the fibular malleolus were two facets, one for the astragalus and one (a nearthrosis) for the calcaneus. These were separated by a nonarticular surface. Upon the tibial malleolus were three articular facets, one for the astragalus, and one (a nearthrosis) for the scaphoid, and one (a nearthrosis) for the internal cuneiform.

For comparison with HARTLEY's adult case, we will review the findings of MR. R. W. PARKER,* of London, England, in a patient of eighteen months, who died of tubercular meningitis.

The spinal cord was normal to the eye and on microscopic examination; as was also the popliteal nerve and its main divisions. Portions of each muscle of the leg were examined microscopically and found to be perfectly healthy. The anterior portion of the internal lateral ligament of the ankle-joint was firmly blended with the astragalo scaphoid ligament above, and the calcaneo-scaphoid ligament below and all were shortened. A bursa was found between the tip of the malleolus and the scaphoid bone. The upper articular surface of the astragalus extended backward as far as the posterior surface of the lower articular surface. The neck of the astragalus was elongated and its obliquity amounted to fifty-three degrees, as against thirty-eight degrees in the normal bone. The articular surface of the head was prolonged to the inner side. The internal malleolar facet was not recognized. The calcaneus was rotated inward beneath the astragalus and a considerable portion of the upper posterior facet was uncovered and articulated with the posterior border of the external malleolus. The plane of the cuboidal facet was directed unnaturally inward.

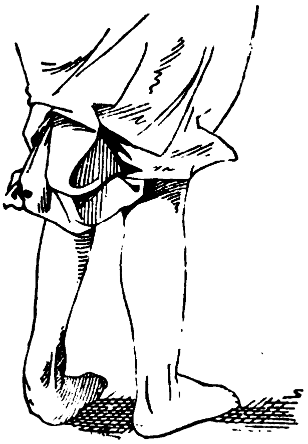
FIGURE XII.—Paralytic Equino-Varus of moderate degree.

SYMPTOMS.

The symptoms of congenital club-foot are simply the deformity together with a certain degree of muscular atrophy from disuse, and callosities from weight bearing in an unnatural position. In the acquired forms there is loss of voluntary muscular power. In the deformities due to cerebral and hysterical paralysis there is usually no appreciable muscular atrophy.

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* "Congenital Club-Foot: Its Nature and Treatment." By ROBERT WILLIAM PARKER. London: H. K. Lewis, 1887.

DIAGNOSIS.

The diagnosis of club-foot presents no difficulties, except as to etiology and the consequent choice of treatment. Much dependence must be placed upon the history. Congenital cases are rarely due to a spinal paralysis, and never, in so far as I know, to a cerebral lesion.

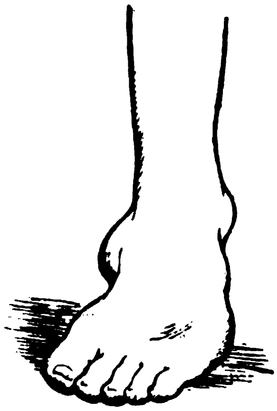

Figure XIII.—Paralytic Case. Marked Varus; Moderate Equinus.

The diagnosis between cerebral and spinal lesions can usually be made. Those depending upon spinal paralysis give the history of the actue attack of anterior poliomyelitis and subsequent development of the deformity. In addition the muscles present atrophy and changed faradic reaction. The cerebral cases present the apoplectic onset and subsequent contractures, with no muscular atrophy and unchanged faradic reactions. Hysterical cases are known by the history and the presence of other hysterical manifestations.

PROGNOSIS.

The prognosis depends upon the degree and duration of the deformity and upon the treatment. Congenital cases grow progressively worse without treatment, as do those due to spinal and cerebral lesions. Hysterical cases follow the same erratic course of other hysterical manifestations.

With sufficiently prolonged mechanical support and such operations as the gravity of the case may demand, all these deformities may be corrected and the patient enabled to walk in a proper manner. In the congenital cases good muscular strength and muscular development result from exercise when once the deformities have been corrected. In the paralytic cases there is often some gain in this direction, but never full recovery.

Club-foot has no effect upon the general health, and it does not endanger life.

TREATMENT.

The treatment of club-foot is mechanical, or operative, or both mechanical and operative.

The earliest record that we have is that of the treatment employed by Hippocrates and consisted of bandaging and the use of a leaden shoe.

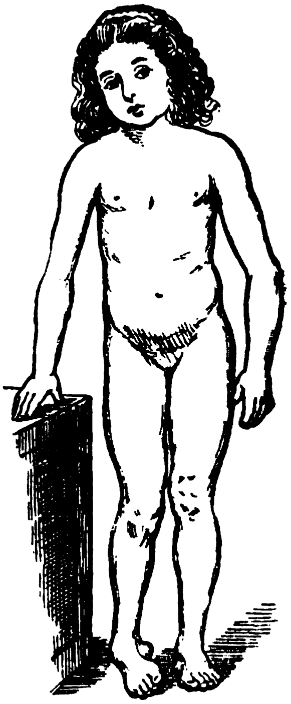

Figure XIV.—Unilateral Paralytic Equino-Varus.

The first mechanical device intended to have a positive corrective action of which we have record is the "shoe" of Scarpa, of Pavia, in 1803, from which all later shoes and braces for the treatment of this deformity are hardly more than modifications. The aim of all bandaging and brace treatment is to maintain the foot in a somewhat corrected position, and to gradually gain something upon this position by the exercise of so much of a corrective force as can be borne without serious discomfort or injury to the soft parts. Braces, bandaging, and the various retentive dressings are used either alone or in connection with the various operative procedures.

The simplest and most frequently used of the retentive dressings is the plaster-of-Paris bandage. Plaster-of-Paris was first used in these cases by **Jules Guerin**, of Paris, in 1826. He braced the foot in the best possible position and poured liquid plaster around it. The plaster bandage is of much more recent date. It is used as retentive dressing after hand-stretching and wrenching, and after any of the cutting operations to be hereafter mentioned. Narrow bandages from two to three inches in width are best. They may be applied directly over a well greased foot or over the foot wrapped in cotton or bandages of sheet-wadding. The most convenient covering, however, is a smooth fitting stocking. The plaster bandage should be wrapped from within under the foot and outward so that at each turn the foot is drawn somewhat in the direction of correction. When finished the plaster splint should reach from the base of the toes to the garter line; the foot must be held in the desired position until the plaster sets. The toes should be left exposed for an index that the limb has not been injuriously constricted. When used as a retentive dressing to hand-stretching or wrenching the plaster splint should be renewed every few days. When used after a cutting operation it is usually left on until the wound has healed.

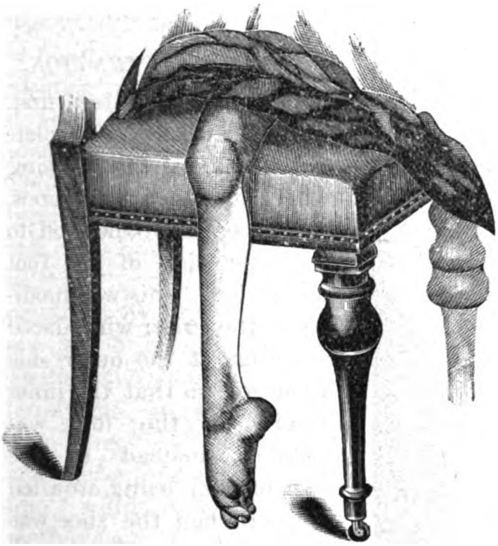

Figure XV.—Marked Unilateral Deformity in a Paralytic Case.

BARWELL'S DRESSING.

Barwell's dressing consists of a broad piece of adhesive plaster passed around the foot, from the dorsum around the inner margin of the front portion of the foot under the sole and up on the outer margin; this is connected by an elastic accumulator with a hook on the anterior and outer side of the shin at the garter line. The hook is usually made fast in its place by adhesive plaster. There are various modifications of this dressing, the more common being the use of two narrow strips of plaster instead of one passed around the foot and carried up the shin where they are made fast, and the whole covered by a roller bandage.

TAYLOR'S SHOE.

Taylor's shoe consists of a foot-piece of sheet-steel made after a pattern of the sole of the foot, with a flange turned up against the inner margin. This flange reaches to the tip of the inner malleolus at the back and slopes forward a little below the level of the dorsum of the foot. The foot is held firmly in this foot-plate by various webbing straps and by adhesive plaster applied to the leg and passing down to a buckle at the upper and posterior angle of the flange of the foot-piece. The leverage for overcoming the varus is had by a leg-piece hinged to the foot-piece by a single rivet, and passing up the inner side of the leg to the garter line, where it terminates in a band encircling the leg. This band is of leather excepting that third which lies to the inner side of the leg, which is of sheet steel. A similar band passes around the ankle. Just in front of the junction of the leg-piece with the foot-piece is placed a set-screw which limits the movement between the leg-piece and the foot-piece, permitting the foot to be dorsal flexed or the leg-piece to be carried forward, but not permitting the opposite movements. This brace is the most satisfactory of the constant-leverage braces, but it requires constant attention on the part of the surgeon to be at all useful.

INTERMITTENT MACHINE STRETCHING AND CONTINUOUS RETENTION.

Shaffer's Shoes.—In equino-varus the lateral deformity is treated first. Some years ago **Shaffer** used a shoe consisting of a sheet-steel foot-plate hinged obliquely at the ankle to a sheet-steel leg-plate, the correction force being a steel finger worked by a section of a toothed wheel and an endless screw. The shoe was bandaged to the inner side of the foot and the leg. This was modified by the writer who placed the hinge at the outer side of the sole so that the inner margin of the foot was stretched instead of the outer margin being crowded together when the shoe was in use. **Doctor Thomas L. Stedman** further improved the mechanism by substituting a rack-and-pinion for the worm-and-screw action. These improvements are embodied in the shoe which **Doctor Shaffer** now uses and which is applied to the outer side of the leg and foot and is controlled by a ratchet-and-pinion action.

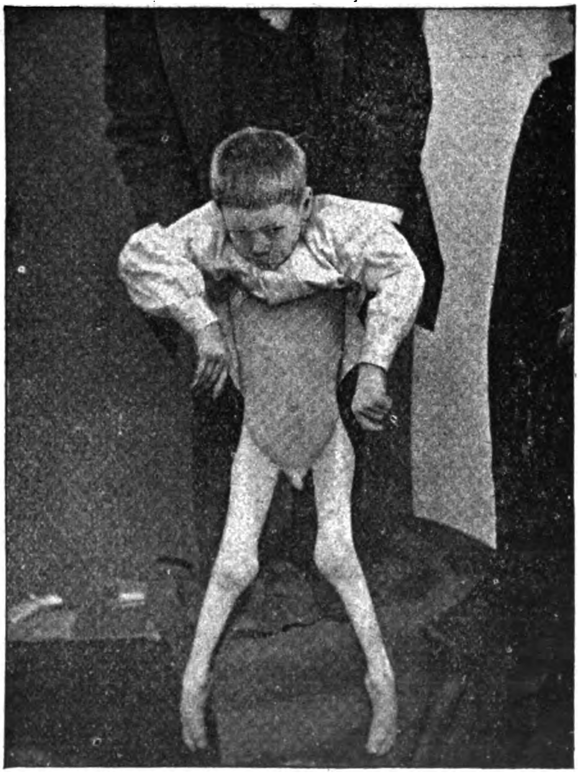

Figure XVI.—Marked Bilateral Deformity in a Paralytic Case.

When the lateral deformity has been corrected, the antero-posterior deformity is attacked by a shoe consisting of three parts and two actions. A steel band passes around the back of the leg below the knee; from this two bars pass down, one on each lateral side of the leg, to the malleoli, to join the heel-cup by a worm-and-screw mechanism. The foot is retained in the heel-cup by a webbing strap across the front of the ankle. The front half of the sole of the foot rests on a foot-plate which is joined to the bottom of the heel-cup by rack-and-pinion mechanism. A webbing strap passes around the tip of the heel and passes down on each side of the foot to buckles on the bottom of the foot-plate.

In using either shoe the surgeon daily, or oftener when possible, stretches the foot toward the normal position up to the point of painful tolerance, holds it there for a short time, and relaxes the tension to the point of comfortable tolerance, where it is retained until again stretched.

WRENCHING.

Thomas's method of correcting the deformity by frequently repeated wrenchings with retention in the intervals was foreshadowed by Thomas Sheldrake, of London, in 1798. He says: "The essential operation to be performed in curing club-foot is to produce such an extension of some of the ligaments, as, if it happened by accident, would produce a sprain." Thomas's method has not been generally understood, and consequently has been neither appreciated nor practiced by any except a few of Thomas's pupils. The method consists of intermittent stretching, or wrenching, by a wrench and retention in simple iron splint. It is the method *par excellence* for the treatment of young children among the poor, where for any reason tenotomy may not be performed. It is applicable to all degrees of deformity in young children; it gives as good results as can be obtained by any method, or better; it more rapidly corrects the deformity than any nonoperative method; and the cost is inconsiderable. But it is a cruel method and one that cannot be employed in many private cases. Many parents prefer a longer course of treatment, or the risks attendant upon an operation, to subjecting their child repeatedly to the painful wrenching.

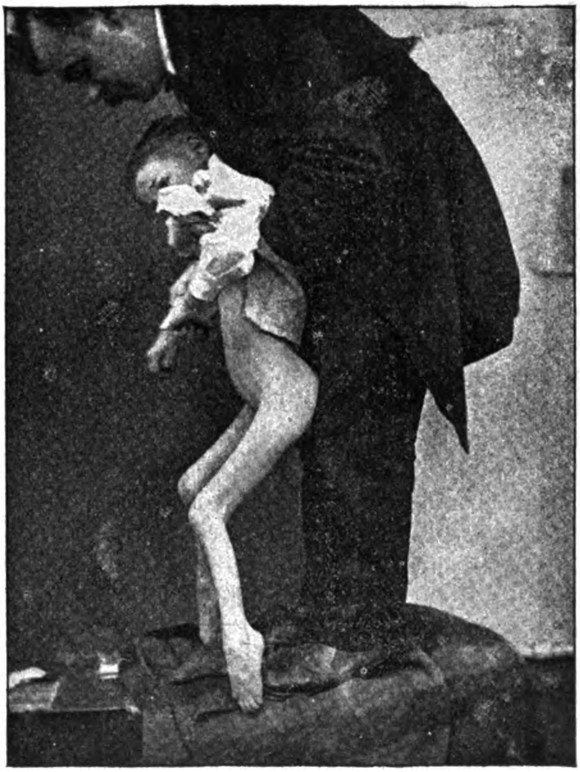

Figure XVII.—Marked Bilateral Deformity in a Paralytic Case.

The wrench, Figure XXV, is made from a monkey-wrench by sawing off the jaws of the wrench, boring a hole from the side through the fixed head-piece into which is set a strong pin, and a like hole in the traveling head-piece into which is set a second pin. A slot must also be cut in the main stem of the wrench for the second pin to play through as the traveling head-piece moves up and down. A thin slotted shield is placed at the base of the pins that the skin may not be pinched between the head-pieces as they approach each other. The pins should be straight and slightly bulbous at the ends to prevent their covers from slipping off. The pins may be snugly covered with thick, soft leather or with soft rubber.

The wrench is applied to the foot as shown in Figure XXVI; the foot is twisted and bent in the normal direction as shown in Figures XXVII and XXVIII. The twisting and bending is done forcibly and quickly and the foot immediately released. Holding the foot too long in the bite of the wrench may result in a pressure sore. The keynote of this treatment is the extent to which the stretching or spraining is carried. The wrenching should be carried far enough to temporarily destroy the resiliency of the soft parts; to such a degree that the foot is temporarily paralyzed and lies limp in the hand of the operator. It is then placed in the retention brace in its best possible position and held there by adhesive bandages. After two or three or more days, depending upon the severity of the deformity and the severity of the wrenching, the resiliency of the soft parts begins to return; the foot is then subjected again to the wrenching procedure. In this way the treatment is continued until the deformity is fully corrected and until it shows no tendency to return. After this the foot is retained in the corrected position until all the parts have adapted themselves to their new relations; or, as THOMAS used to say, "until the slack had been taken up" on the side of the convexity. This taking up of the slack is the second essential feature in this treatment.

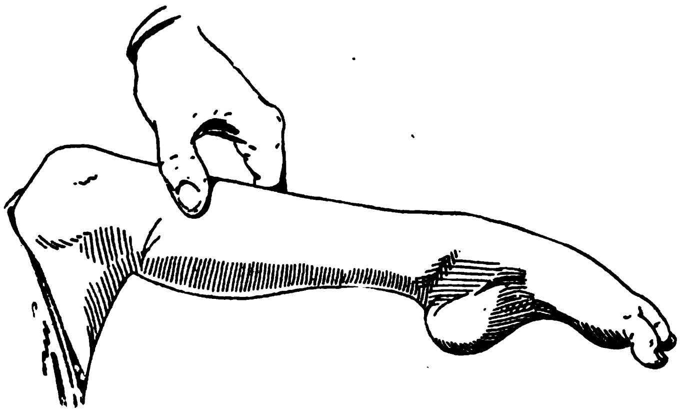
FIGURE XVIII.—Another Paralytic Case.

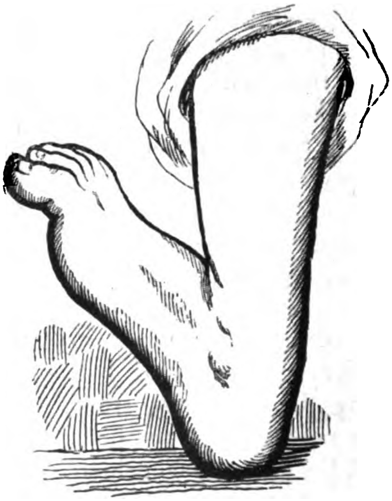
FIGURE XIX.—Paralytic Calcaneus.

Surgeons have always known that corrected club-feet were prone to relapse unless retained in the corrected position for a certain time, but the reason for the relapse and a positive rule for diagnosticating a cure have not heretofore been made known. It has been assumed that the stretched, torn or cut parts on the side of the concavity have recontracted, but no worthy explanation has been advanced for this recontraction, and some have assumed that it was owing to some inherent vice of these parts. The fact of the matter is that the deformity returns from the same cause as a like deformity develops in noncongenital cases, namely, from a lack of muscular balance.

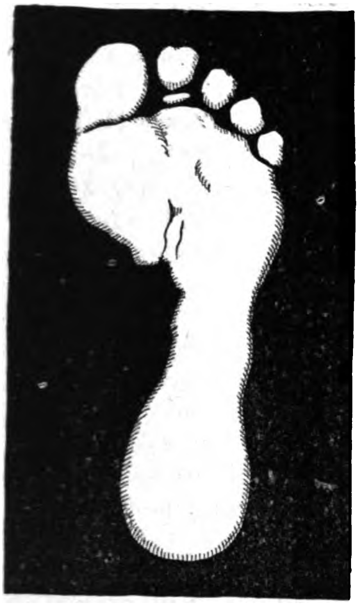

FIGURE XX.—Sole Imprint of a Normal Foot.

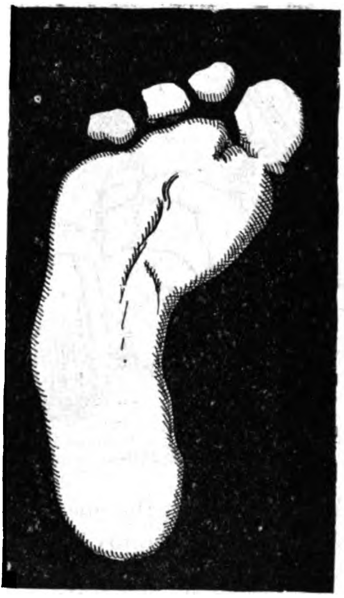

FIGURE XXI.—Sole Imprint in a Case of Equino-Varus. Equinus corrected, but considerable distortion at the Tarsus still remaining.

In the noncongenital cases of equino-varus the fault is a paralysis and lies in the abductors and dorsal flexors of the foot; in the congenital cases the fault, to which the relapse is due, lies in these same muscles; they are weak from disuse and at a disadvantage from overlengthening. When the foot has been continuously held in a corrected, or overcorrected position for a sufficiently prolonged period structural shortening takes place in these elongated muscles, and in the ligamentous and other soft parts on the convexity of the deformity. When, then, the foot has been retained in the desired position so long that it cannot by manipulation be carried into the old deformed position any more readily than into the opposite deformity, then, and not till then, can the treatment be discontinued, the patient discharged cured, and the certainty of no relapse prognosticated.

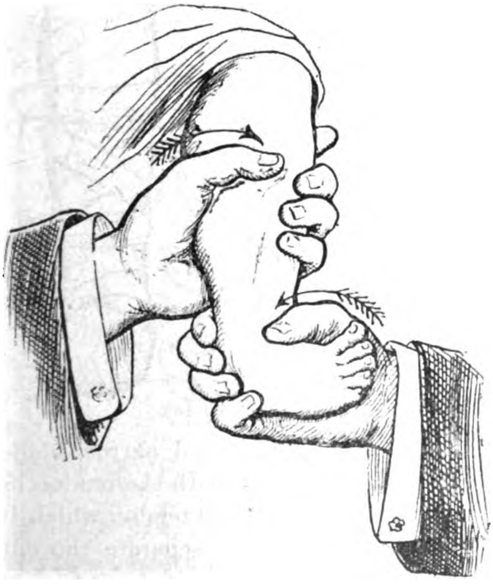

FIGURE XXII.—Hand Stretching in a Case of Congenital Equino-Varus.

TENOTOMY.

In so far as we know the first section of a tendon for the correction of club-foot was an open division of the tendo-ACHILLIS by LORENZ at the suggestion of THILENIUS, of Frankfort, in 1784. The first subcutaneous tenotomy is claimed to have been done by MARK ANTHONY PETIT, in England, in 1799. But it appears that the operation was not repeated, for more than thirty years later WILLIAM J. LITTLE could find no one in England to undertake the operation. On the continent MICHAELIS operated in 1811, SARTORIUS in 1812, DELPECH, of Montpelier, France, did subcutaneous tenotomy of the tendo-ACHILLIS in

1816. But to **Stromeyer**, of Hanover, more than to any other do we owe the development of the operation in 1831. To **Stromeyer** went **Doctor William J. Little**, of London, for the cure of his own foot when he could find no one in England willing to do the new operation. **Little** introduced the operation into London, in 1836.

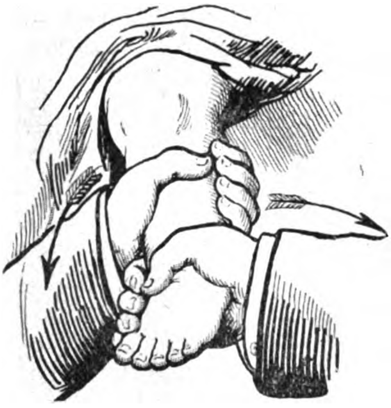

Figure XXIII.—Hand-Stretching in a Case of Congenital Equino-Varus.

In this country the first subcutaneous tenotomy for the cure of club-foot was made by **Doctor David L. Rogers**, of New York, in 1834, and the next by **Doctor James H. Dickson**, of North Carolina, in 1835. **Doctor William Detmold**, of New York, operated in 1840, and did more to popularize the operation in this country than any other surgeon. He was followed by **David Prince**, who wrote in 1866, **Louis Bauer**, 1868, and **Lewis A. Sayre**, in 1875. The comparatively recent date at which this operation was generally accepted may be realized by an editorial note in **Doctor Townsend**'s translation of **Velpeau**'s "Surgery," edited by **Valentine Mott**, in 1847. After reviewing the operation the editor says: "Notwithstanding the facts, the question of tenotomy still remains undecided."

The operation, as performed by most surgeons in this country and England, at the present day is practically the same as recommended by **Stromeyer** in 1831. It consists in correcting the lateral (varus) deformity to some extent before attempting the division of the tendo-**Achillis**. This tendon is then divided by the use of a tenotome, a small knife with a short and narrow blade with a long shank. The tenotome is inserted flat either beneath the tendon or between the tendon and the skin, its edge is turned toward the tendon which it is made to divide by a sawing motion. Care is taken not to separate the cut ends of the tendon until soft union has taken place at the end of from four to

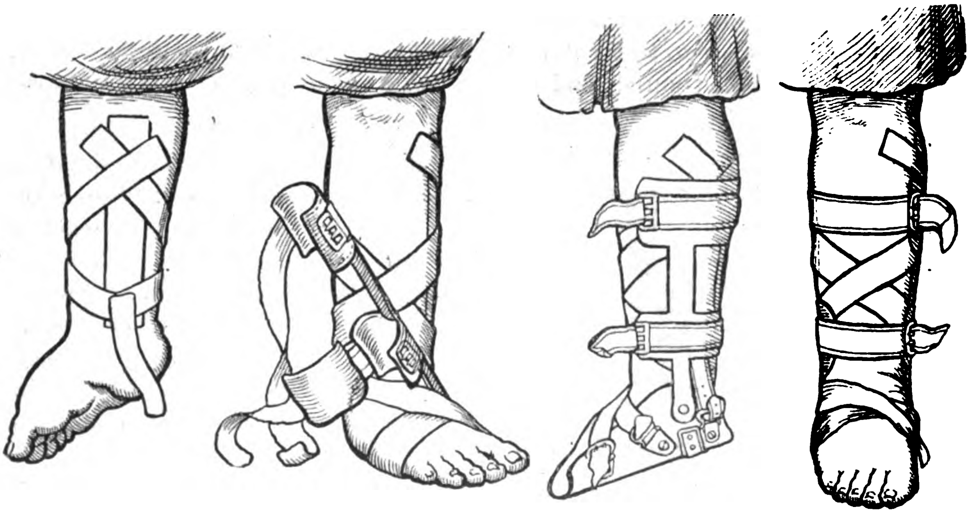

Figure XXIV.—Continuous Leverage Treatment by the Taylor Brace.

seven days. Then by manipulation and retention, to stretch the plastic material which unites the cut ends of the tendon until the desired position has been gained, the fear being that the cut ends of the tendon would not unite if they became too widely separated. As early, however, as 1838, Scoutetten advised the immediate correction of the deformity after tenotomy, and this for many years has been practiced by Sayre in this country, and R. W. Parker, in England. That distinct separation of the cut ends of the tendon does not of itself cause nonunion I am sure, having obtained solid union where the separation, in a young woman, was one and three-fourths inches. Another fault in the old operation was the attempt at correction of the lateral deformity before the antero-posterior defect had been remedied. As pointed out under pathological anatomy, the body of the astragalus is often wedge-shaped, with the apex of the wedge posteriorly, and there is consequently a short posterior ligament at the ankle-joint. Unless this ligament be cut, a somewhat difficult task, or torn before the tarsus itself is weakened by an operation, it will be found practically impossible to fully flex the foot; and unless full flexion well past the right ankle, be possible, relapse of the varus is sure to occur, for only by adducting the foot at the tarsal joint is the patient able to bring the heel to the ground.

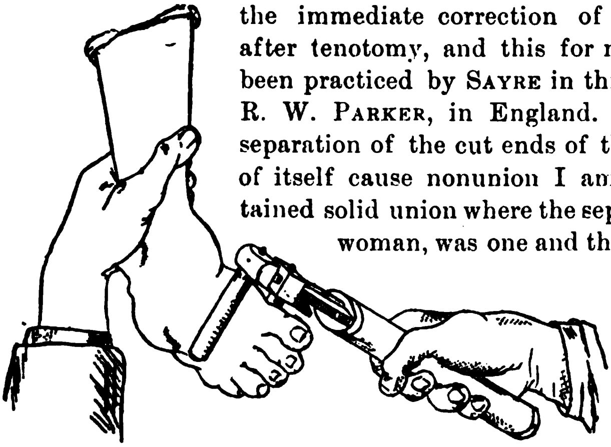

Figure XXVI.—Treatment by Intermittent Traction or Wrenching. The Thomas Wrench in first position.

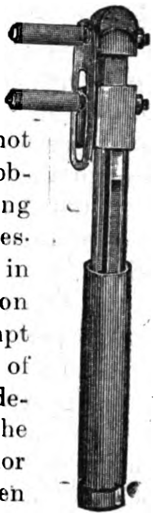

Figure XXV.—The Thomas Wrench.

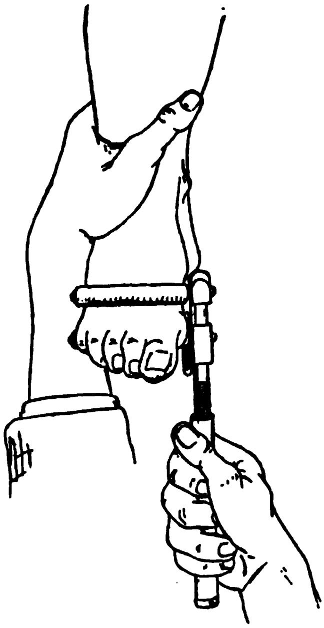

Figure XXVII.—The Thomas Wrench in second position.

The procedure, then, which I would advise, in the ordinary case of congenital equino-varus is as follows:

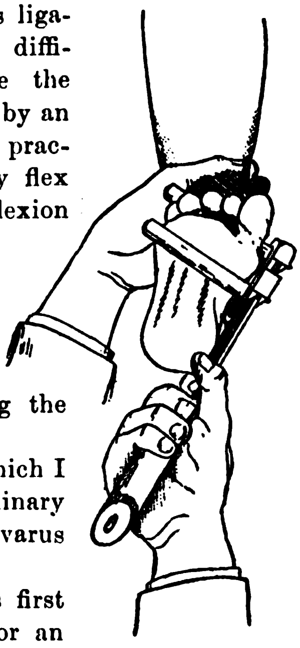

Figure XXVIII.—The Thomas Wrench in third position.

The tendo-Achillis is first attacked about an inch or an inch and a half above the point of its insertion. The patient lies on his face, the assistant puts the tendon on the stretch by flexing the foot, the skin is drawn somewhat to one side and with a pointed tenotome a puncture is made at the side of the tendon, passing beneath it. With this same knife, or

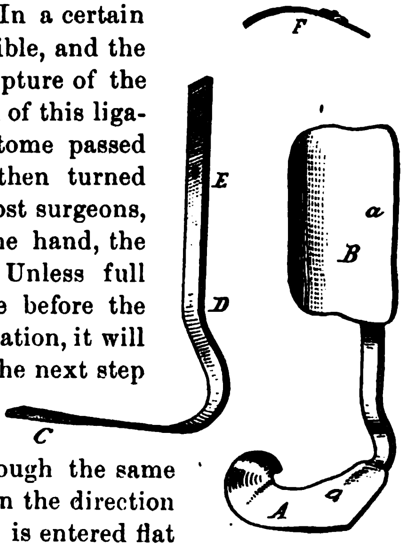

FIGURE XXIX.—The Thomas Club-Foot Brace.

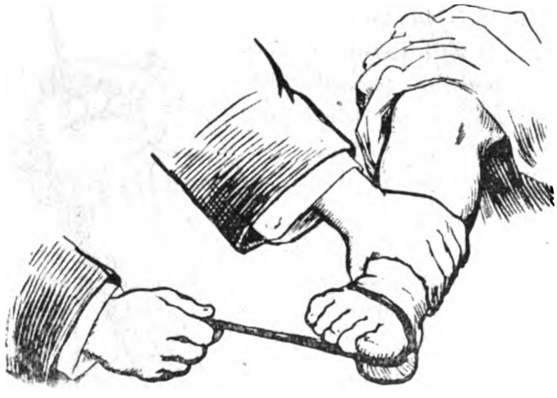

FIGURE XXX.—The first step in applying the Thomas Club-Foot Brace.

with a blunt pointed one in its place, the tendon is then divided by turning the edge of the knife toward the tendon and moving it with a gently sawing motion. As soon as the assistant feels the snap of the divided tendon he should instantly relax the flexion. When the cavity left by the incision has filled with blood the operator attempts full flexion of the foot. In a certain number of cases this will not be found possible, and the choice then is between a section or forcible rupture of the posterior ligament of the ankle-joint. Section of this ligament is accomplished by a spear-shaped tenotome passed through the middle of the tendo-ACHILLIS, then turned half around and swept from side to side. Most surgeons, however, prefer to rupture the ligament by the hand, the wrench, or some other mechanical device. Unless full flexion at the ankle-joint be made possible before the anterior portion of the foot is subjected to operation, it will be found very difficult of accomplishment. The next step is the division of as much of the deltoid ligament as may be necessary, and such shortened tendons as may be reached by the knife through the same incision. The foot being put on the stretch in the direction of outward rotation, a sharp-pointed tenotome is entered flat close to the anterior border of the inner malleolus with its back next the bone, and carried around under the tip of the malleolus. It is then removed and replaced with a blunt knife, preferably convex on the edge; the edge is turned toward the ligament and as much of it divided as may be necessary. Through this same opening the tendon of the posterior tibial, and the anterior tibial, and astragalo-scaphoid capsule may be divided. The tendon of the extensor of the great toe stands out prominently over the metatarso-phalangeal articulation and here it is divided from within outward, when required. The adductor of the great toe and the plantar fascia are divided just in front of the lesser tuberosity of the os calcis. When all resisting bands that can be made out to the touch have been divided, the foot should be forcibly overcorrected by the hand, or the wrench, or some such mechanical device, and should be retained permanently in that position. Strict asepsis should be practiced in these tenotomies and the wound sealed with collodion and a small bit of gauze or cotton. No permanent pressure should be made to check bleeding. If the bleeding is sufficient to demand pressure, a free incision should be made and the bleeding vessel ligatured. Pressure diminishes the quantity of plastic effusion and may be the cause of a weak union between the divided ends of the tendons. Dressed without pressure, perfect union may always be confidently expected, no matter how far the cut ends may be separated. The method formerly in general use of leaving the foot in its deformed position for a few days until soft union between the divided ends of the tendon had taken place, and then gradual stretching of this new material may be held responsible for many cases of weak union, and even of nonunion.

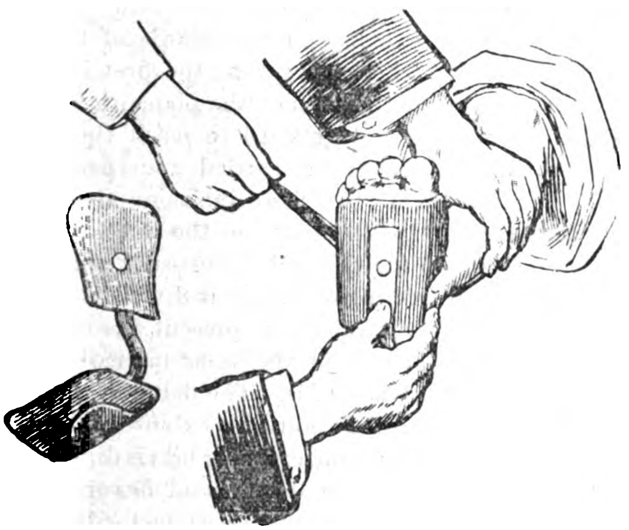

Figure XXXI.—The second step in applying the Thomas Club-Foot Brace.

PHELPS' OPERATION.

This consists in making an open incision commencing in front of the inner malleolus and extending one-third the distance across the sole of the foot, carried down to the neck of the astragalus, on its inner side. (Figure XXXIV). Through this wound the adductor pollicis, tibialis posticus, the plantar fascia, the flexor brevis, the long flexor tendons of the toe, and the deltoid ligament, all its branches if necessary, can be cut. This is done after subcutaneous tenotomy of the tendo-Achillis has been performed. Great force is then used by the machine shown in Figures XXXV and XXXVI, to rupture the deep ligaments and supercorrect the foot.

Any case that can be corrected by the hand, or by subcutaneous tenotomy should not be subjected to Phelps' operation; and when the operation as described fails to easily supercorrect the foot, a linear osteotomy should be made through the neck of the astragalus. This failing, the removal of the cuboid and scaphoid is indicated. And, as a last resort, Pirogoff's amputation should be resorted to.

The wounds of Phelps' operation are sutured, or not, as may be possible, and dressed without drainage with the aim to obtain blood clot organization. The feet are dressed in the supercorrected position in plaster-of-Paris.

Phelps first operated in 1879, and to him more than to any other is due the credit of leading the way to perfect results in inveterate cases of club-foot.

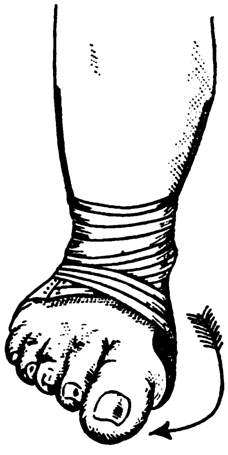

Figure XXXII.—The Thomas Club-Foot Brace applied.

RIDLON'S OPERATION.

This is a modification of Phelps' operation, designed to avoid a tender scar of the sole of the foot. In Phelps' earlier operations, the incision was carried two-thirds across the sole of the foot; at present it is carried but one-third that distance, and the objection to a tender scar holds less well than when the modified operation was devised.

The operation which bears the writer's name consists of an incision commencing on the dorsum of the foot just in front of the inner malleolus at the point where the tendon of the extensor longus digitorum muscle crosses to the inner side of the foot; from here it is carried directly toward the sole, to meet, near its middle, a second incision made parallel with the sole from near the inner tuberosity of the os calcis to the middle of the first metatarsal bone, or beyond. The plane of the first incision leads directly downward to the bones; the plane of the second incision slopes upward and outward to reach the bones at their nearest border, thence it is carried underneath the bones, closely hugging them. As these incisions are made, an assistant constantly keeps the parts on the stretch in the direction of correction of the deformity and each part as it appears to resist the correcting influence is divided. When any considerable degree of equinus is present the incision passes beneath the anterior half of the inner malleolus, and in severe cases beneath the whole of it. The deltoid ligament, and the tendons of the tibialis anticus, extensor proprius hallucis, extensor longus digitorum, extensor brevis digitorum, tibialis posticus, flexor longus digitorum and flexor longus hallucis are readily reached. From the second incision the abductor hallucis, the plantar fascia, and any other resisting structures may be divided. By carrying the second incision in the plane directed it will almost always be possible to avoid dividing the internal plantar artery and the nerve. The division of all tight bands having been made, the foot is overcorrected by the hand, or by the wrench. As in Phelps' method, we believe it better to divide the tendo-Achillis and correct the equinus, rupturing, if necessary, the posterior ligament of the ankle-joint before commencing the operation for correcting the deformity of the anterior portion of the foot. The dressings are the same as in Phelps' operation, namely, suturing in so far as it is possible without putting the parts at too great tension, and covering the wound with lister protective and aseptic dressings, with the expectation that healing by blood-clot organization will take place. Over all is applied a plaster-of-Paris dressing with the foot in the supercorrected position. In inveterate cases where the foot cannot be easily held in the supercorrected position, operations on the bones are indicated as pointed out under Phelps' operation.

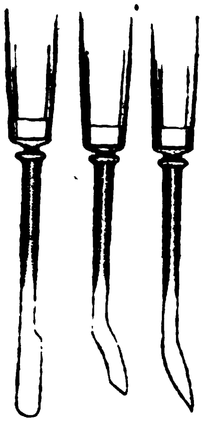

FIGURE XXXIII.—Teneotomes.

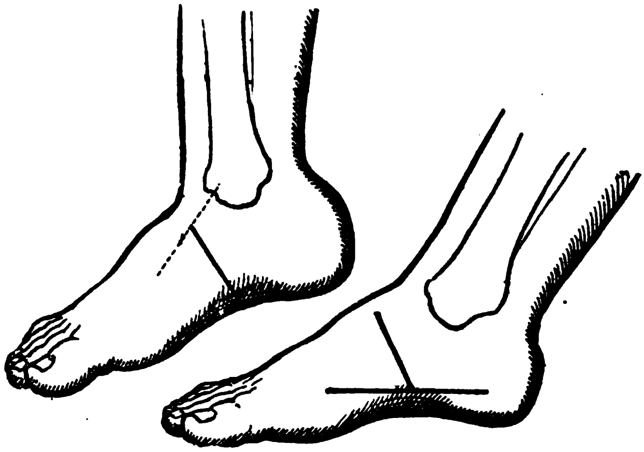

FIGURE XXXIV.--The heavy line in the figure on the left shows line of incision in Phelps' operation. The heavy lines in the figure on the right shows lines of incision in author's operation.

The principles first clearly emphasized we believe by **Phelps**, must never be lost sight of: First, correct all cases possible by hand; second, correct all possible by subcutaneous incision; third, of the remaining cases, divide by an open incision all resisting soft parts, and with the hand or some mechanical device supercorrect the deformity; fourth, when this cannot be readily done, do a linear osteotomy of the neck of the astragalus, followed, if necessary, by a cuneiform osteotomy of the os calcis; if this is not sufficient enucleate the astragalus, or remove any bone or portion of bone which blocks the way; and if this is not sufficient, amputate.

BONE OPERATIONS.

Linear osteotomy of the neck of the astragalus is demanded in inveterate cases in older children and adults where the inward twist of the head of the bone is so extreme that supercorrection cannot be made after free section of all the soft parts on the inner side of the foot. An incision is made on the outer surface of the dorsum of the foot over the neck of the astragalus and the bone is divided by an osteotome. The foot is placed in the desired position, the wound is closed without drainage and dressed in the usual way. In a few cases linear osteotomy of the astragalus will not be found sufficient to permit of over correction of the deformity. In such cases the incision is extended downward, the anterior portion of the outer surface of the os calcis is exposed, and a wedge-shaped piece removed from that bone just back of its anterior articular surface.

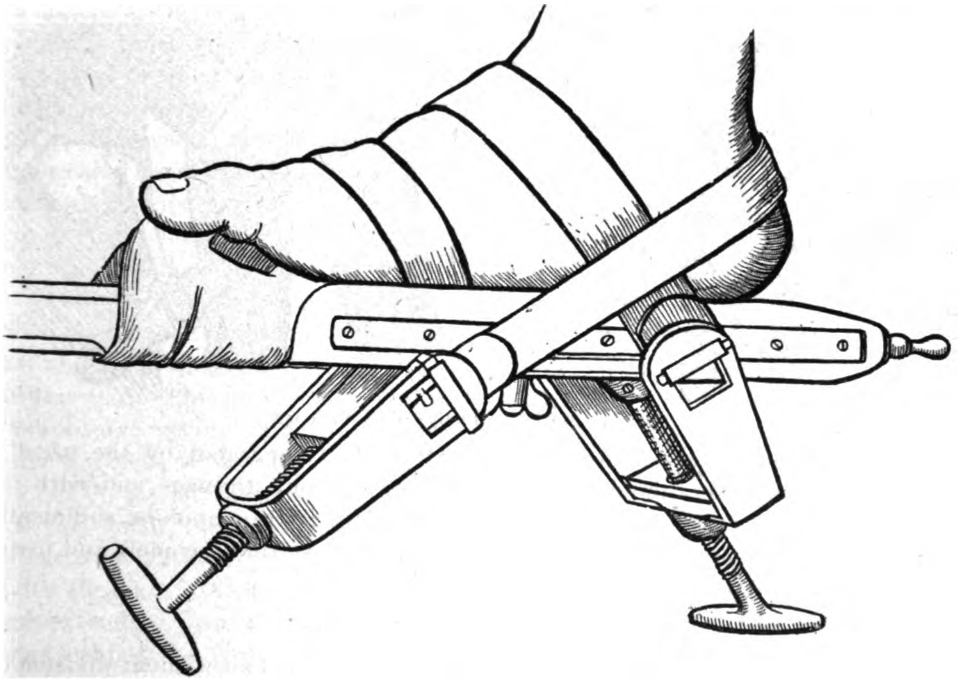

Figure XXXV.—Phelps' Machine applied.

In a certain number of cases, relapse takes place because of the obliquity of this anterior articulating surface of the os calcis, even when the deformity as a whole has been readily corrected either by tenotomy or stretching. In such cases cuneiform osteotomy of the os calcis is indicated to prevent relapse.

In a few cases the astragalus is partially displaced forward so that the posterior portion of the lower articular surface of the tibia articulates with the os calcis, and the tibial articular surface of the astragalus is so changed in shape and direction that in all except very young infants restoration of full function in the direction of flexion is not possible except after the removal of that bone. When the head of the bone has been exposed by a curved incision over it, and separated from its attachments, it is grasped by a bone forceps and the rest of the ligamentous attachments can be most readily separated by the use of a grooved chisel. The wound should be dressed without drainage and with the foot in the supercorrected position. If the deformity cannot be sufficiently corrected by some one or all of the means indicated, so that a comely and useful foot results, amputation should be advised.

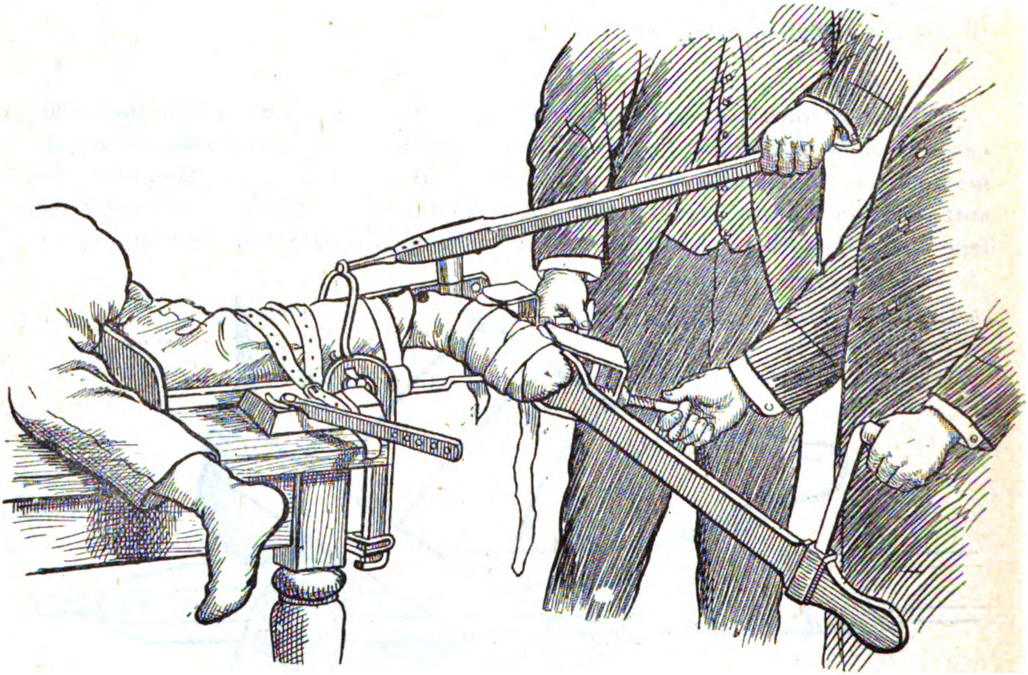

Figure XXXVI.—Phelps' Machine in use.

OTHER BONE OPERATIONS.

Excision of a large wedge from the outer side of the foot without division of the soft parts internally, and without regard to what bones or portion of the bones are included in the wedge is no longer generally performed.

Fitzgerald, of Melbourne, Australia, advises the use of a specially constructed osteotome, which is entered subcutaneously, and with which by cutting and breaking all the bones of the tarsus and their attachments are broken up and the foot rendered possible to be moulded into any desired shape by the hand of the operator. In so far as I know the operation has not been done in this country.

Grattan, of Cork, Ireland, operates in two ways by the aid of a powerful osteoclast. Either a supramalleolar osteoclasis of both bones of the leg is made and the foot rotated ourward and everted; or the osteoclast is applied directly to the dorsum of the tarsus and the varus thus straightened out by direct pressure. In one or two instances the skin in the concavity, on the inner side of the foot, is torn, leaving a wound in the line of the PHELPS' incision. This operation has not been done in this country as the results of MORTON's and BRADFORD's machine, which acted in the same way, did not prove, when in use some years ago, as satisfactory as the cutting operations.

SMALL-POX.*

BY HEDLEY WILLIAMSON, M. D., DETROIT, MICHIGAN.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

ON account of the vast deal that has been said and written during the last two years, it is with great hesitation that I care to occupy the attention of this society with such a subject as small-pox; yet when we see a case cropping out here and there, not only in this city but throughout the state, and at the same time take into consideration the imperfect manner in which general vaccination has been carried, it must strike every one that at any moment he may be thrown into contact with the disease. I will not presume to give a paper on the whole subject, but merely to point out the more salient features, which may be of assistance.

The diagnosis in those typical cases which have never been vaccinated, so graphically described in our text-books, is comparatively easy. Here, after an exposure of from twelve to fourteen days, no shorter—or no longer, a person is seized with a chill, quickly followed by fever; he thinks he has caught a severe cold; intense headache, very frequently at the nape of the neck; a characteristic severe pain across the loins; at the same time nausea and vomiting is present which is difficult to control. On the third day the rash appears, often discovered on the second, and if a careful examination is made, usually at the time of the first visit. This may be preceded by a preliminary flushing of the whole skin. Now, observe very closely the forehead, around the cheeks and chin, and the flexor surfaces of the forearm for the tiny, hard purplish-red speck; it is not the red of scarlet fever or measles, it has a distinctly purplish appearance, at first very small, the size of a pinhead. This macule quickly becoming papular, owing to its hardness and deep-seated character, gives rise to the "shotty feel" under the skin; then in twenty-four hours becoming vesicular; at the same time extending over the legs and trunk, that on the trunk being about twelve hours behind the face. These papules are found at a very early stage in the throat, the eruption there giving rise to great discomfort and causing profuse expectoration. The vesicles are from one-twelfth to one-fourth of an inch in diameter, filled with serous fluid, quickly becoming milky, and umbilicated, the typical depression in the centre. The temperature at first runs up from 103° to 105°, and dropping to about 101° when the eruption is out, and rising again in the pustular stage. The eruption may be so profuse as to involve the whole surface of the skin forming the confluent variety, or hemorrhagic, when the vesicles fill with blood instead of serum, and hemorrhagic discharges take place from the eliminating organs such as the kidneys and bowels, also from the nose, throat and stomach, large gushes of blood frequently coming from these organs.

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* Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

The diagnosis of these severer forms is comparatively easy, the profound symptoms and the objective appearance quickly throwing light on the subject; but in the milder forms and in those modified by vaccination diagnosis is more difficult. One frequently finds all subjective symptoms are absent; no headache, no backache, no vomiting, only the appearance of a few papules, becoming vesicular, and shortly drying up, often of such insignificance that a physician is not called. This is clear, as frequently we have been called to typical cases of variola where, on examination, we have found that some member of the household has had a slight eruption some two or three weeks before, so slight as to require no medical assistance. A few weeks ago I was called in consultation to a suburban village where I found a child suffering from small-pox, its mother having had a few papules on her face three weeks before and no attention was paid to them. Then, again, I saw a second attack of small-pox in a nurse who attended a private patient of mine. She had had the disease in a severe form thirty years before, and in this attack had only three papules altogether. This would never have been recognized had she not been knowingly exposed to the disease. And these cases, too, are just as contagious as the more malignant. It is well, therefore to examine carefully all rashes that may come under one's observation.

Passing to the more pronounced of the mildest forms of the disease; with what is one likely to confound the disease? I think it is well here to state the affections that were confused with it during my term as examining physician for the Board of Health. During the three months I kept a complete record embracing last November, December and January. I was called to three hundred and twelve suspected cases of small-pox, fifty of which proved to have the disease. Now, of those not having the disease, varicella stands at the head of the list, and rightly so, as some of these cases are extremely difficult to differentiate, especially when these may have been exposed to both diseases. The one distinguishing feature here is, and I have yet to see it fail, the regularity of the eruption in small-pox in contradistinction to the irregularity in chicken-pox. I mean by this that in small-pox the lesion comes out at a stated period, beginning on the face and hands and extending over the extremities and trunk in regular order, from the papule to the vesicle, and then the pustule, the lesions all over being similar at the same time, whereas in chicken-pox the eruption comes out in patches or crops, a papule here, a vesicle there, and pustules between the two, and a scale falling off somewhere else. Of course, in varicella the symptoms are, as a rule, milder. One does not usually find the grave constitutional disturbance, the period of invasion is shorter, the eruption clears up more quickly, no especial secondary fever, yet in either of these cases we may or may not have the headache or other forms of pain, the vomiting, a great area of the skin covered with the lesions. I remember seeing, with **Doctor Carrier**, a case of varicella in a young man of twenty, where hardly a normal portion of skin remained, so profuse was the eruption on the trunk. I say one may find all these symptoms or the absence of any of them in either disease, but I have yet to see a case of chicken-pox, and I have seen quite a number, where the lesions were all in the same stage of development, and in over two hundred cases of small-pox, which I have seen, I have yet to find papules, vesicles and pustules generally commingling.

This history in half of these cases is not worth the time it takes to tell about it on account of the class where one frequently finds this affection. One is simply confronted by the rash and by it alone should be able to tell. I would here like to say it would be advisable to call all cases of chicken-pox in persons over twenty-five years of age small-pox. Two or three unfortunate mistakes were made in our recent epidemic by not doing so. Chicken-pox is a disease of the young, but I do not say it will not occur in the adult, as there are a few cases recorded which I do not care to dispute; yet, I do say they are so rare in persons over twenty-five, and because of the extreme difficulty in diagnosing them, I think it advisable to quarantine all such cases.

Measles next presents the greatest difficulty in diagnosis, but even here the disease should be quickly determined. For three days one finds symptoms of coryza, watering of the eyes, and bronchitis; then the eruption occurs, first on the face, as in variola, then on the body; first as papules a pinhead in size, not so hard as small-pox, quickly becoming larger, the redness disappearing on pressure. In measles the papules are red, but in small-pox assume the purplish hue of which I spoke before. Then the papules increase in size quickly and coalesce, and form that blotchy appearance of the skin so characteristic of the disease. The coalescence of these papules often form circular looking patches, the whole rash now appearing a deep dark-red color. The distinguishing feature, though, is that the small-pox papule quickly becomes vesicular and that of measles never.

Scarlet fever should not offer much difficulty in diagnosis. In it the eruption usually begins first on the body, extending over the extremities and face as minute dots or specks rapidly diffusing, causing patches of irregular distribution. Here the color is characteristic, being a bright scarlet, and on drawing a finger over the surface leaves a white mark. The whole skin has a swollen appearance. The surface is as a rule smooth, except in those cases where the papillæ are abnormally swollen, causing that condition called goose skin. The throat in these cases is also swollen and of a bright scarlet color, frequently there is an exudation on the tonsils, and the tongue is coated with large papillæ projecting through. Bearing these points in mind not much difficulty should be experienced.

In certain papular syphilides confusion has arisen, but a close examination will quickly reveal the cause of the eruption.

I was also called to see several cases of herpes zoster, but the distribution of the eruption over the course of the nerves revealed the condition.

I would like here to relate a case in which I made a mistake in diagnosis. Fourteen days before I was called, the man had worked on the new hospital. He had a temperature of 102°, headache, general pains through his body, and an acute eczema of the face and hands on top of an old acne. I sent him to the pest-house, but Doctor Morrison, expressing doubts as to diagnosis, put him in a suspect ward for thirty-six hours, and then discharged him, fortunately none the worse for his sojourn in the hospital.

It will be unnecessary to say much concerning the merits of vaccination, as I understand this society is unanimous on that point. It is a great preventive and if a successfully vaccinated person contracts the disease, one may be assured of a recovery. We have had 279 cases of small-pox altogether, with a mortality of 73, a fraction over twenty per eent.

Of the unvaccinated, 103 in number, 35 died—thirty-four per cent.
not reported, 51 in number.
vaccinated, 125 in number, 25 died—twenty per cent.

This last number is extremely misleading, as there is a great difference between *vaccination* and *successful vaccination*. A number of these latter simply said they had been vaccinated, and a number more had been done after exposure frequently a day or so before the appearance of an eruption, so the statement is practically worthless; but of this we are sure, DOCTOR MORRISON never lost a case where there was a successful vaccination mark present, and I can say the same of about forty cases I have treated. There have been some severe cases too. I saw a case with DOCTOR MORRISON in which the eruption was hemorrhagic on the legs. The patient was seriously ill, yet suddenly he took a turn for the better, and quickly recovered. There is a patient convalescing at the hospital now, a case of the confluent and semihemorrhagic form, in which the vaccination mark is plainly discernible. I treated one patient with the hemorrhagic form on the legs who recovered. Now, it is the exception for either the unvaccinated confluent or hemorrhagic case to recover; so it is clear that vaccination has a tremendously modifying influence, even in the extreme cases, and it is the exception to have a serious case in one who has been successfully vaccinated.

As regards treatment, I have found supporting the best. Good nourishing, easily digested foods, forced feeding, large doses of quinine and iron, followed by the liberal use of stimulants and heart tonics, as strychnia. In the secondary fever, cold baths were used with pleasing results.

In conclusion, subjective symptoms are extremely misleading. Most dependence should be placed on the character of the eruption. Isolate as much as possible till the eruption appears. Look for the tiny purplish-red papules around the forehead, under lower lip and around the wrists. Although the disease is contagious in the early stages, the danger is insignificant as compared with the later stages; so if a case is isolated early, not much danger will arise from the patient. If a case is suspected, do not give opium to check the pain, as it suppresses the eruption and acts injuriously upon the kidneys.

A CASE OF DISLOCATION OF THE CERVICAL VERTEBRÆ.*

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ABOUT 10 o'clock on the evening of the 13th of May I was hastily summoned to see MR. X, aged thirty-nine years, who had been injured by the collapse of a folding bed. I arrived at his room a few minutes after the accident occurred. It seems that MR. X was reading in bed when the upright part, a heavy mass, used during the day for a wardrobe, had fallen forward pressing the head of the unfortunate occupant forward upon his chest. MR. X remained in this position with his neck acutely flexed for nearly five minutes before sufficient help could be summoned to release him. When I saw him some ten minutes later, he was suffering from shock, although able to talk connectedly. The respirations were a trifle fast and the pulse somewhat feeble.

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* Read before the DETROIT ACADEMY OF MEDICINE.

A hasty examination failed to show any appreciable deformity of the cervical region; there was, however, complete loss of motion and sensation below the diaphragm. A hypodermic of nitroglycerine, one one-hundredth of a grain, was administered. Fearing that the lesion of the cord might be serious the patient was removed to Harper Hospital. Upon his arrival at that institution, at 12 o'clock, the pulse-rate was 92, the temperature 97.6°. Hoping that the paralysis and anesthesia might be due to pressure from hemorrhage in the meninges, counterirritation was applied to the nape of the neck and a sharp saline cathartic administered; hot applications to feet were applied during the night and the nitroglycerine ordered repeated in two hours.

At 8 o'clock the next morning I saw the patient with DOCTOR WALKER who was called in consultation. The temperature had risen to 104.6°, though the pulse-rate was only 100. The urine which had been drawn off with a catheter showed a decided reaction with FEHLING'S solution. On account of the rise in temperature ice-bags were applied to the spine and to the head. The patient now complained of soreness and lameness in the arms and neck. The motion of the arms was greatly impaired. On trying the grip the fingers of each hand would contract feebly. The arms moved only through the contraction of the deltoid muscle. A persistent priapism developed which lasted for a number of hours. Paralysis of the intercostal muscles and of the lower limbs persisted. Sensation in the lower limbs was slightly manifest, so that the patient could locate tolerably accurately points of pressure about the ankle and was sensitive to heat and cold, although the evening before there was no pain when a needle was stuck deep in the flesh between the knee and foot.

On account of this gain in sensation a favorable prognosis was entertained as it seemed that the lesion was only transient in the spinal cord. In the hope of stimulating the spinal centres one-sixtieth of a grain of strychnine was ordered every two hours, and in the hope that absorption of any deposit in the meninges might be hastened syrup of hydriodic acid was administered every four hours. A careful examination of the posterior aspect of the neck failed to reveal any deformity, as did also inspection and digital examination of the pharynx. During the afternoon the temperature rapidly fell until by 4 o'clock it had reached normal. This thermal decline with the exception of a slight rise of half a degree at 8 P. M. continued until by the next afternoon the thermometer registered 95.4° with a pulse-rate of 62. On the third day the temperature came back to the normal line. A mild conjunctivitis developed which was treated with boric acid solution.

Owing to the rapidity with which decubitus appears in lesions of the spinal cord, the most painstaking precautions were adopted from the onset of the case to prevent their appearance. Every procedure known in modern nursing to relieve points of pressure was made use of, but in spite of all this as early as the second and third day areas of redness appeared upon the buttocks and sloughing afterward occurred. The rapidity with which they appeared would seem to furnish a basis for the theory of the older physiologists that there are certain special nerves of trophic function.

The paralysis of the intercostals, while not interfering with normal respiration, did not allow of the performance of the acts of forced expiration. Coughing, beyond a slight expulsive movement of the diaphragm, was impossible. Bronchitis developed and with the attendant increase in secretion added materially to the patient's discomfort. It was impossible for him, without assistance, to raise any mucus in the tubes and trachea. Accordingly at varying intervals the attendant would, by forcible compression of the chest wall with one hand on each side, substitute for the contraction of the intercostals and in this way the phlegm would be expelled. The weight of the patient diminished rapidly, although concentrated alimentation was adopted early in the history of the case.

From a careful comparison of the affected muscles with the table of localization of the functions of the segments of the spinal cord as given by STARR and EDINGER the lesion was located below the fifth cervical vertebra with loss of function of the segment corresponding to the sixth cervical. The function of the deltoid was evidently unimpaired while there was loss of control over the extensors and flexors of the wrist.

Repeated examinations of the urine failed to find any traces of sugar after the first day. Although the most rigid precautions in regard to the care of the catheter were observed a cystitis developed after a few days. Small blood clots were observed at intervals in the urine. There was complete loss of the control of the bladder and rectum and use of the catheter and the daily use of the enema had to be constantly continued.

Two weeks after the accident the condition of the patient was such that the expectant line of treatment was thought to have had a sufficiently long trial, and the advisability of operation discussed. Emaciation had proceeded so that at this time in examinations of the neck a slight irregularity in the symmetry of the fifth and sixth vertebræ could be detected. The persistent progressive decline of the strength of the patient, with constant increase in the severity of the unfavorable symptoms, warranted the adoption of radical measures in the hopes of relief. Accordingly on the 30th of May the patient was chloroformed and laminectomy of the fith and sixth cervical vertebræ was performed by DOCTOR WALKER. The incision and reflection of the soft parts over the spinous processes revealed a rupture of the vertebral ligaments with lateral dislocation of the fifth cervical vertebra to the left and displacement of the sixth cervical to the right. There were no traces of former hemorrhage in the membranes which were exposed. An effort was made by extension and counterextension with lateral pressure upon the displaced parts to bring them into line but without success. On account of the condition of the patient it was not deemed best to further open the spinal canal. Accordingly drainage was introduced and the incision closed.

The patient took the anesthetic very well considering the condition of the bronchi and suffered but little depression after the operation. The temperature at 8 o'clock the morning of the operation was 100°; at the same hour in the evening it went up to 104°. The subsequent temperature was very irregular, varying from normal to 103°, with sharp remissions and exacerbations. The wound showed very little vitality; the subsequent oozing was very small. A slight improvement was noticed the day after the operation; sensation in the lower limbs seemed to be increased, with somewhat more control over the arms.

On the third day after the operation the respirations began to increase in frequency, gradually rising, until on the 6th of June they ran 42 a minute. A hypostatic pneumonia had developed from the inability to endure a change of position for more than a few minutes at a time, and from the inability to properly expectorate the accumulation of mucus.

The subsequent history of the case is one of progressive emaciation and adynamia. As the patient became weaker the trouble with expectoration increased until at times it seemed as though the bronchi would remain clogged. The bedsores increased in size; the heels and ankles developed necrotic areas although the points of pressure were changed every hour or so. Delirium developed at night, although during the day the mind was generally clear. On June 19 death occurred. No autopsy was permitted.

The points of interest in this case which I would wish to accentuate are:

(1) The appearance of sugar in the urine after injury to the cord.

(2) The partial return of anesthesia with no improvement in the paralysis.

(3) The inefficiency of our modern methods of prevention of decubitus in paraplegia.

(4) The difficulty of reduction of a cervical dislocation.

In connection with this case, I might mention a somewhat similar accident which happened a few months before, the patient coming under my care. In this case the upright part of the folding bed fell forward sharply flexing the head upon the chest. The weight was quickly removed so that the neck was bent forward but for an instant or so. Here the forcible impingement of the head upon the chest caused a partial separation of the second costal cartilage. This reunited with but slight deformity. While no symptoms of paralysis or loss of sensation followed, yet certain symptoms of irritation have persisted, manifesting themselves in pronounced twitching of the cervical muscles when the patient is suffering from fatigue.

STATISTICS REGARDING THE SERUM TREATMENT OF DIPHTHERIA IN GRAND RAPIDS FOR 1895.*

By HERBERT M. KING, M. D., AND JOSEPH B. WHINERY, M. D.

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In diphtheria antitoxin we have a therapeutic agent most logical in its production and of inestimable value in its clinical results; yet, nothwithstanding the great bulk of testimony now accrued in its favor,—reports from the most reliable sources of thousands of cases, perfectly justifiable comparisons of many hundreds of cases in the same cities treated under similar circumstances and conditions with results overwhelmingly in favor of the specific treatment,—we say nothwithstanding all this, a large minority, at least, of the profession has either refused to employ it, or is ignorant of its asserted value, and this state of affairs obtains even in the city of Grand Rapids where, through the munificence of one of its citizens, as you all know, this remedy is at the disposal of any reputable physician without cost who will employ it in all cases where the patients are unable to pay. Such being the case, it is extremely desirable that full and complete reports be procured and published at frequent intervals in every city where the remedy is used to the end that the true value of diphtheria antitoxin may be demonstrated beyond question.

Early last summer we reported to this society the results obtained with this remedy by DOCTORS J. B. WHINERY, B. S. CREBS and H. M. KING. DOCTOR R.

*Read before the GRAND RAPIDS ACADEMY OF MEDICINE.

H. SPENCER at the same time gave details regarding several cases in which antitoxin had been used by him. Our conclusions were as guarded and as free from enthusiasm as the most conservative could have wished. The success met with since then, however, together with the voluminous reports from all over the civilized world, have made further reticence as to our convictions on the subject unrestrainable.

We have endeavored to generalize as much as possible in the brief article following, being well aware that clinical details of individual cases at this stage of our experience would be tedious, except when some particular feature may be illustrated; and that a general summary will better serve the purpose. In gathering and formulating these statistics, we can claim no originality of research or investigation. This article simply comprises the experiences of local physicians who have used antitoxin, together with the reports of the Health Board, and our natural deductions and conclusions therefrom.

Since antitoxin had not been used in Grand Rapids prior to January 1, 1895, this report dates from the first of the current year. We are informed by our health officer that the reports which reach the Board of Health are not absolutely inclusive of all cases of diphtheria in the city, since some few go unreported as such, either through the negligence of the family in failing to call a physician or through mistaken diagnoses on the part of the latter; but this number at most must be very small and can safely be left out of our present consideration as it is a feature which must obtain in every locality where the municipal law is not more stringent respecting vital statistics.

One more point must be borne in mind in the consideration of this report, and that is the difficulty experienced in gathering data outside the health office in the short time we have had at our disposal, and it is possible that antitoxin has been employed both curatively and as an immunizing agent in this city in a certain number of cases of which we are ignorant, and have therefore had no opportunity of recording.

During 1895, up to and including December 26, there have been reported to the Board of Health of Grand Rapids one hundred and ninety cases of diphtheria and membranous croup, of which latter disease there have been fifteen cases. Of this number forty deaths occurred, a mortality of nearly twenty per cent. It must be stated, however, that of the cases of membranous croup, twelve died, which would somewhat lessen the mortality rate from diphtheria affecting the upper air-passages alone; but on the other hand, it is beyond doubt that a certain percentage of the cases reported as diphtheria were not *true* diphtheria, and it is only fair to place the mortality from true diphtheria at twenty per cent. as a least calculation. The fact that, to a certain extent, we are obliged to make *estimations* regarding the diagnosis of diphtheria, is deplorable when we consider two things: First, its terrible mortality; and second, our ability to ascertain (if we so desire) through the means of cultures what to all practical purposes is absolute diagnosis.

We feel that we cannot too strongly urge upon the members of the profession the necessity and the advantage of this method of diagnosis, for the line between certain aggravated cases of simple throat affections and the milder cases of diphtheria is by no means clearly drawn, and we defy the most expert clinician to make a positive diagnosis from microscopic appearances alone in a large number of cases. It may be truthfully said that this point is unimportant to the patient as he will recover anyway, if the case is so mild, but when we consider that such a patient is just as much a menace to all with whom he comes in contact as if the case were of the most malignant character, the great importance of positive diagnosis is at once apparent.

Now, so far as we have been able to learn, antitoxin has been given in cases of membranous croup but once in Grand Rapids; that case was seen very late. The child was already moribund when injected at 8 P. M., and died at midnight. You will admit, therefore, that this instance cannot prejudice us against the remedy. The only other fatal case treated by antitoxin occurred at the Children's Home: An infant of seventeen months, the first case so treated in Grand Rapids, we believe. The BEHRING product was used, six hundred units, or the *weakest* dose was injected, and that when the infant was almost moribund. The failure here was due to the unfortunate delay in administering the remedy, the weak serum employed, and our inexperience in its use. Including these two, we have been able to collect twenty-five cases in which the serum treatment has been used as a curative agent. A large number of these have been very malignant, with septic complications and all of them in which no cultures were made were so pronounced as to be beyond doubt as to diagnosis at the time of injection. Whenever it has been possible, however, cultures were made and the specific bacilli demonstrated. So, then, we have a record of twenty-five cases treated by the serum with a mortality of two or eight per cent. as against a mortality of twenty per cent. of the whole number reported for the year, *including this twenty-five cases*, and we are confident that this high rate will in future be greatly reduced with our increasing experience in the employment of this remedy.

At present, a few of the above noted cases are still under treatment, but they will, in all probability, make a complete convalescence. As an immunizing agent, antitoxin has been used in Grand Rapids in eighteen cases of which we have knowledge, and probably a larger number would be no exaggeration. Of this number all but two were exposed to the most malignant types of diphtheria and croup for some days, and in several instances occupied the same bed with the patient, and in six instances, of which we are cognizant used the same forks, spoons or other eating utensils as did the patient who *exposed* them to the infection. In not a single instance did they develop the disease. This fact alone is sufficient to establish our confidence in the remedy.

It might be of interest here to say that the extremes of age in which antitoxin has been used curatively in Grand Rapids have been seventeen months and forty-five years. Including one case which was seen yesterday, the extremes of age where it has been employed for immunizing purposes have been two weeks and (about) thirty years. In both cases the majority, of course, being among young children.

Now, by the conservative, not to say skeptical, element in the profession, it has been claimed that in these successful cases where antitoxin has been employed, it was more the careful nursing and the contributory remedies to which might be attributed the success in treatment. We cannot speak with certainty for all of the twenty-five cases, but in every one that has come under our personal observation no other curative agent has been employed. In three at least, all in the most unfavorable hygienic circumstances, absolutely nothing but the antitoxin was used, not even salt water to wash the throat. These three cases were severe in the commencement but yielded within twenty-four to thirty-six hours to the happy influence of the serum and made uninterrupted convalescence.

We do not feel warranted, however, even for the sake of experiment in jeopardizing the comfort and convenience of our patients by failing to employ those simple antiseptic sprays and douches which give such relief, without in the least influencing the case or detracting from the glory of the serum treatment; nor do we think that the administration of stimulants (which is our practice in all cases when the heart action is feeble or rapid) ought to be for a moment considered as curative agents. We believe that nearly all cases seen early in their course and treated with the antitoxin serum will recover without *any* other medication, but if neglected until cell changes have already been effected and the heart action has become thereby enfeebled, we certainly would advise combining stimulants with the serum treatment, and in all cases the use of some simple douche or spray of antiseptic solution, DOBELL'S, SEILER'S or peroxide of hydrogen solutions is highly desirable and cannot possibly cast reflection upon our confidence in antitoxin.

The complications and sequellæ of diphtheria with which we have met in cases where the serum treatment has been employed are of interest to consider briefly. For obvious reasons, many of the cases treated ran their course and recovered without an analysis of the urine having been made. Whenever possible, however, uranalysis has been made, and in every instance where we have been able to obtain specimens, the urine was examined before and after the injection of the serum. The only logical inferences which we can draw, either from our own observations or those of various writers of larger experience, are as follows: (1) Antitoxin does not directly affect the kidneys in any way. (2) When nephritis does occur, it is the effect of the action of the toxines and not the antitoxin. (3) When the serum is exhibited prior to any cell changes in the body, nephritis will not supervene, but when such cell changes have already taken place, antitoxin will not prevent or cure the existing lesion in the kidneys. Those paralyses which commonly occur as sequels of diphtheria, we believe to be due to the same cause which produces the nephritis, if not as a result of the latter. Therefore, the above inferences would apply alike to the sequellæ. In other words, patients treated with the serum are less liable to complications and sequellæ than those treated by any other method, and the earlier the injections are made, the less liability there is to their development.

A strong argument in this connection exists in the fact that of all the eighteen healthy individuals immunized, not one developed a single pathological condition and whenever it was practicable uranalyses were made in these cases after injection. In fact, we have yet to learn of a case where the serum injection in a healthy individual, of which thousands of course have been made, has been followed by nephritis. Even DOCTOR WINTERS, of New York, with all his venom against the treatment, has not cited such an instance.

Recapitulating in brief, then, we are convinced that diphtheria antitoxin so-called, is preeminently indicated in all cases of diphtheria and membranous croup whether other and accessory treatment is employed or not. That this remedy offers the patient the best chances by far for recovery of any known treatment and that this serum is in the strict sense of the term a specific. We are moreover convinced that antitoxin not only does *not* cause nephritis, but that by neutralizing the toxines produced by the specific germ, it actually tends to mitigate or prevent it. That it produces immunity to the disease in question for a certain period is beyond doubt. Just how long the immunity lasts it is impossible at present to say, but it is certain that in this capacity antitoxin has served its purpose with us.

In conclusion, we desire again to urge upon the profession the advantages to be gained, both mediate and immediate, from the employment of cultures made from every suspicious throat coming under our observation. We are certain that some cases now reported as diphtheria would be found not to be such; while on the other hand cases which are now passed lightly over as innocent anginas would be found to harbor the KLEBS–LOEFFLER bacillus, the discovery of which would allow of a timely prevention of the mysterious spread of the disease which so often confronts us.

MESSRS. PARKE, DAVIS & COMPANY are preparing culture media in small tubes properly sterilized for this purpose for the boards of health of Buffalo and Detroit. These tubes are sold in lots of fifty at $3.00, or six cents per tube. Inoculation of the same from a suspected throat is the simplest procedure imaginable if a little care is taken. Twelve hours is time sufficient for their development while the microscopical examination can be made by any microscopist having a one-tenth or one-twelfth immersion objective. This slight trouble and expense is, it seems to us, amply rewarded by the definite results thus obtained and the assurance which we are thereby able to give our patient.

TRANSACTIONS.

DETROIT MEDICAL AND LIBRARY ASSOCIATION.

STATED MEETING, NOVEMBER 25, 1895.

THE PRESIDENT, ERNEST T. TAPPEY, M. D., IN THE CHAIR.
REPORTED BY WILLIS S. ANDERSON, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR FLINTERMANN: I was surprised that there was such a difference in the percentage of the cases of recovery in which vaccination had taken place and those in which vaccination apparently had been negative, or, if it had, but a very short time previous to the infection. Now, some experiments have been made lately to test cases in which successful vaccination had been performed and those in which a revaccination was perfectly negative. Other experiments have been made in which the serum of patients who were vaccinated was used in animals who are subject to small-pox and who were previously vaccinated at different times. For instance: one animal was subjected to the injection of serum which had been vaccinated five days before, and another seven days, and it was shown that in those cases in which the injection had taken place five days after having been vaccinated they were not perfectly immune, but in those cases in which it was done seven days later they were perfectly immune. In *The*

Medical News, of Philadelphia, cases are reported in which vaccine serum has been shown to modify true cases of variola. Now, as to the cases of hemorrhagic variola, I think the diagnosis is not so easy as the doctor states. If you have a case in the community you will be unable to decide the first time you observe it because of its similarity to other cases of hemorrhagic diathesis, but certainly when we have such cases during the prevalence of an epidemic we will come to the conclusion very readily that the case is one of small-pox. Again, there is another difference which has been pointed out in the paper tonight, and that is regarding cases in which previous vaccination has taken place in relation to the influence it has in modifying the course of the disease. I have lately seen a report of two cases in Berlin, in which an Italian woman and her child were taken down with small-pox when there was no history of exposure to small-pox. The mother had been successfully vaccinated, and the child was reported not to have been vaccinated. The most interesting point in these cases was that the mother had very high fever up to the time the eruption appeared; then the temperature dropped very suddenly and the so-called suppurative stage presented scarcely any fever, recovery proceeding rapidly, while in the child the course of the disease was very different. The child had not been vaccinated and when it came to the suppurative stage the temperature ran up very high. This indicates that vaccination modifies the course of the disease in a very peculiar manner; in such a way that it obviates the fever in the so-called suppurative stage. By computation in a large number of cases it has been ascertained that vaccination only protects, on the average, for seven years. Now, in this case in which the mother and child were taken down in Berlin at a time when there was no small-pox prevailing it was important to know how they contracted it, and it was learned that they had been visited by an Italian from Italy, where the disease existed, and who had not changed the clothes which he wore during the epidemic. The distance from Italy to Berlin, and the length of time intervening, you see did not prevent those two people from contracting the disease, which shows that the small-pox can be carried by those who have not been sick themselves but have the poison on them in some manner, and therefore isolation is not sufficient to prevent the disease. The only preventive is disinfection. The report is interesting in another respect from the fact that the effect of the disease was not given. A paste containing one per cent. of the nitrate of silver was applied to the faces so that when the patients left the hospital scarcely any scar was visible. Another interesting point is that PROFESSOR KOCH, of Berlin, has demonstrated that only after a few days the contents of the so-called pustule is septic. What have we to take into account to explain this sterility of the pustule? During the Franco-Prussian war it was observed that the German army was superior to the French in that there was scarcely any infection among them, while the French soldiers were decimated, and it has taken a long time to convince the French people that more dependence can be placed in an army where the soldiers are taken care of as well in prophylactic medicine as in other respects. An eminent French surgeon, whose name I cannot remember at present, has insisted on compulsory vaccination in the French army, and the percentage of small-pox has decreased in great degree. It is said that vaccination does not prevent small-pox. As I have already stated experiments have shown that when animals have been subjected to the injection of blood serum five days after having been vaccinated they were not immune to the disease, but after seven days they were, so it can be explained that if people are taken down five days after vaccination has been performed immunity has not taken place, but after seven days this condition obtains, so that we, as physicians, ought to insist that vaccination should be done successfully, provided we have material upon which we can depend. During the late epidemic I vaccinated children three or four times and never obtained successful results. How are these vaccinations made, where are they made, by whom are they made, and how are they controlled? How are the children taken care of after vaccination? During the last epidemic there was appointed a number of young physicians and students to vaccinate people everywhere and anywhere without any antiseptic precautions, even without the entire will of the people. They were ordered to walk into dirty factories and other dusty places where men, women and children exhausted from work, were vaccinated by the hundreds, perhaps in a very short time. Such a method of vaccinating cannot commend the respect of the people. Why not appoint certain physicians at a time when we have no epidemic to make the vaccinations in the most careful way, keep a list of every person vacciuated, of the course of the case, place them on file, and have accessible for reference at the proper time.

Doctor Longyear: It seems to me the paper we have heard read is a very opportune one inasmuch as we have just passed through an epidemic of small-pox, and are in some danger of having it ensue again with the advent of a long period of cold weather. The matter of the time when contagion begins is certainly an interesting one. I have, until recently, thought that that old rule of the case not being contagious until the vesicle had umbilicated was a good one. That rule would tally with the one given by Doctor Flintermann, that is, that the vesicle was sterile until pus began to form. The question of what protection is given by vaccination is a very interesting one. I have had some practical experience in that matter in my own person. In my last year as a student of medicine I was taken down with what seemed to be an attack of confluent small-pox in its most virulent form. On the tenth day of the eruption the whole thing died right down, dried up and ended. The secondary fever did not come on, and the ulceration into the skin did not occur. It was all the result of the vaccination I had when an infant. In the matter of black small-pox, or the so-called hemorrhagic form, I think, with Doctor Flintermann, that it is not an easy matter to make a diagnosis, especially if there is not an epidemic of small-pox. When I was the house physician at Harper Hospital—I think it was in 1876—we had a case sent to us. The patient was covered with black spots and had nosebleed. It was taken in on the advice of the Board of Health, and died on the third day after admission. I remember Doctors Farrand and Foster coming in at the time and I called their attention to it. Doctor Foster at once recognized it, and we immediately vaccinated every one connected with the hospital. We had five cases following this, one of them dying with a very virulent type of confluent small-pox.

Doctor Bryan: While the speakers were talking about the infectious and contagious nature of small-pox I had the thought occur in my mind that the best authorities are all agreed that small-pox is more or less infectious or contagious in all its stages, and that gives rise to another thought, that is, that notwithstanding we believe small-pox to be a germ disease, yet up to the present time, so far as I am aware, there is no proof that the small-pox germ exists. It has been looked for steadily for a long time, and the disease would seem to indicate that it is germinal in its origin because of its prevention by antisepsis. I will say here that owing to my own experience I think I could add some new ideas upon the subject of small-pox, but I will refrain from doing so at the present time, reserving the right for some future occasion.

DETROIT ACADEMY OF MEDICINE.

STATED MEETING, NOVEMBER 26, 1895.

THE PRESIDENT, W. R. CHITTICK, M. D., IN THE CHAIR.
REPORTED BY J. E. EMERSON, M. D., SECRETARY, *pro tempore.*

DISCUSSION OF PAPERS.

DOCTOR PRESTON M. HICKEY read a paper entitled "A Case of Dislocation of the Cervical Vertebræ." (See page 74.)

DOCTOR WYMAN: I have observed priapism in a number of similar cases to the one reported. I recall a case of dislocation at the eighth cervical vertebra for which I made a laminectomy, but without any benefit as the cord was completely severed. Several other cases might be cited in which extension and manipulation had been successful in reducing the displacement and recovery had followed. I do not regard dislocation of the vertebræ as necessarily irremediable, and in all such cases I think that an effort should be made to reduce the dislocation by extension and manipulation.

DOCTOR CONNOR: I should like to know what measures were taken to prevent bed sores? I remember the case of a young physician in the upper peninsula who had suffered a dislocation of the spine from jumping from a second story window, paraplegia following while delirious with typhoid fever, who had recovered without bedsores after a tedious illness, a water bed having been used to prevent pressure.

DOCTOR ROBBINS: I was much interested in the paper. It was a very careful description of the points of interest in the case. The bedsores result not merely from the pressure but also from cutting off the nerve supply of the parts. I have seen KAPOSI, in Vienna, use immersion in water to take off the pressure in cases of skin disease. One patient had remained in the bath for fourteen months without detriment. The patient lay upon a bed suspended in the water. In answering the question when to, and when not to, perform laminectomy in cases of vertebral dislocation, I think the answer would in the large majority of cases be—not to. I have in mind a case of mistaken diagonsis showing the difficulty of accurate diagnosis in cases of fracture of the vertebra.

DOCTOR EMERSON: I recall a case of dislocation at the seventh cervical vertebra caused by a fall in which treatment by suspension had effected a partial reduction, but alarming symptoms of heart failure had set in before any permanent apparatus could be applied, and on discontinuing the extension the displacement returned. Extension by elevating the head of the bed was not effectual. I think that in some cases of destructive spinal lesions bed sores are almost unavoidable owing to the severance of the trophic nerve supply.

EDITORIAL ARTICLES.

SHOULD HOSPITALS EXTEND THEIR FACILITIES FOR OPERATING TO PHYSICIANS GENERALLY?

In an interesting paper read before a New York medical society, **Doctor Henry S. Stark** discusses this important point of hospital reform. He claims that the boards of managers of our hospitals should throw open their doors to physicians generally and thus allow them to perform operations on their private patients in the operating rooms of these hospitals, on the ground that the use of the hospital rooms should not be restricted to the visiting staffs to the exclusion of all others.

It will be a surprise to many to find that a city like New York should be in need of a "sweeping change" like the one suggested. In the west these privileges have almost uniformly been granted the profession. There is so much in favor of this liberal policy that it is surprising New York should have remained conservative so long.

From the physician's point of view it is claimed that the members of the profession are laboring under a common disadvantage when their field of usefulness is restricted in diseases requiring surgical interference. There is no obvious good reason why physicians should allow cases not requiring any unusual or technical skill to slip from their hands for want of operating rooms and other conveniences. Then, again, from the fact that a small coterie of fifty control the hospital privilege out of a profession numbering thirty-three hundred, a number of promising surgeons are crowded out for lack of opportunity. They have the skill, the courage, and even the patients, but must surrender their chances of surgical success for lack of hospital accommodations.

While the visiting surgeon might object, in some cases, to the abandonment of special privileges, still, is it right he should utilize a hospital's facilities to the exclusion of other physicians? "To use mild language," says **Doctor Stark**, "it is un-American and savors of monopoly." While monopolies can hardly be said in these days to be un-American, having nowhere thrived better than on American soil, there can be no doubt that the visiting staff are more than amply remunerated by their honorable positions, without monopolizing any special privileges.

Most of our Michigan hospitals have shown a tendency recently to be very liberal to the profession, and recognizing that their institutions are primarily for the benefit of the sick poor, are willing that any clinical education the patients are capable of affording, shall be used by all who have the opportunity. Let New York observe how well the custom works and do likewise.

ANNOTATIONS.

ANESTHESIA AFTER COCAINIZATION OF THE NARES.

Observations made in one hundred cases of anesthesia after cocainization made by **Doctors Gerster, Mayer** and **Theobald**, which are reported in *The Annals of Surgery*, lead these observers to conclude that the distress and oppression felt by the patient at the beginning are considerably diminished. That, excepting in the cases of alcoholics, the patients so treated exhibited less reflex irritation than usual; they entered insensibility more rapidly and quietly, with less struggling, coughing and nausea; that especially when the ether was used, the mask could be approached to the face of the patient much quicker without opposition or resistance. In a few cases the cocaine gave constitutional symptoms and tended to diminish the depth of the respirations. In regard to *after-effects*, there was observed less nausea, vomiting, headache and general malaise.

MORPHINE AND TRUTHFULNESS.

Is there some peculiarity connected with morphine which destroys the truth centre? A physician recently testified he "would not believe a morphine eater under oath." Other narcotics do not seem to impair veracity to such an extent. Alcoholics receive a fair amount of credence. When, too, does a morphine eater become unreliable—when he is addicted to one or twenty grains a day?

THE NEW PHOTOGRAPHY.

THE new photography is going to revolutionize medicine if it develops with the promise it now shows. For actual physical exploration it will be invaluable, and those who suffer from stone in the kidney or bullets in the soft parts, may have the diagnosis made with ocular certainty.

CONTEMPORARY.

BOGUS MEDICAL JOURNALISM.

[THE MEDICAL RECORD.]

WHILE *The Medical Record* hails with satisfaction the advent of any new medical journal which appears to have a legitimate sphere, and always extends to it such encouragement as lies in its way, it seems right that a word of condemnation should be uttered respecting the too numerous periodicals which are launched upon the profession without any reasonable necessity or justification. Not a few are conceived solely by advertising agents—men who have neither interest nor sympathy with the profession save as they can make it a means of livelihood for themselves—and published at more or less nominal prices in anticipation of a circulation which will enable them to obtain the advertisements upon which they depend for their profits.

It is unfortunate that there are always medical gentlemen to be found who, for a small sum, are willing to "run" these journals. Again, it not infrequently happens that a medical journal is started by some doctor who is desirous of exploiting his own abilities and skill, and at the same time add to his library such books as he may be able to induce publishers to send it for "review." We know of journals published in this country, by individuals and by associations of physicians, whose almost sole *raison d'etre* is the exchanges and editorial copies of books which they obtain, without which they would cease to exist, and to obtain which they must always speak of them in terms of commendation. The publishers, not the subscribers, must be considered first. Medical journals of their class are a delusion and a snare to the profession, and an injury to all rightly conceived and conducted periodicals.

As we have often stated, we believe in local medical journals and their generous support by their legitimate constituency; and we cannot but regret that they should have to compete with journals such as we have mentioned. Of course, there is no way to prevent the publication of these illegitimate journals, and the only recourse in the hand of the profession is, as far as possible, to patronize only those of whose origin and management they have some personal knowledge.

PROGRESS IN INSTRUCTION.

[MATHEWS' MEDICAL QUARTERLY.]

THE two leading questions in medical education are practical instruction in classes in properly equipped laboratories and abundant clinical material and bedside instruction. The medical school that does not magnify this method of instruction will sink into well-deserved obscurity. There is no excuse for any graduate to say, as nearly all of his predecessors were forced to do, that he has no practical knowledge of the microscope, stethoscope, laryngoscope, or that he has not had ample opportunities for witnessing all the important operations in surgery according to modern methods and has personally examined and prescribed for patients in the clinics and at the bedside. The profession has taken the lead and the community will speedily follow and require more knowledge and higher skill of students having such advantages.

MEDICAL NEWS.

THE TWELFTH INTERNATIONAL MEDICAL CONGRESS.

THE Czar of Russia has signed the imperial rescript sanctioning the Twelfth International Medical Congress which is to convene in Moscow, and the Government has contributed 120,000 francs toward the expenses incident to the meeting. The date has been definitely determined for the week in August, 1897, embracing from the 19th to the 26th, provided an epidemic of cholera and a hazy political atmosphere do not necessitate a postponement. His Majesty's uncle, the Grand Duke Sergi, Governor-General of Moscow, has signified his willingness to act as patron of the congress; Professor Klein, dean of the medical faculty of the University of Moscow, has been elected president; and Professor Erismann, who occupies the chair of Hygiene in the University mentioned, will perform the duties of general secretary. The Congress will consist of twelve sections, and the official languages will be French and German.

THE JENNER CENTENARY.

THE conjoint committee appointed by the American Medical Association and the American Public Health Association to arrange for the proper celebration of the one hundredth anniversary of the discovery of the protective power of vaccine virus have prepared the following program for the occasion. The celebration will occur at Atlanta, Georgia, May 7, the third day of the meeting of the American Medical Association, and will occupy the entire day. At the morning session Doctor N. S. Davis, of Chicago, will deliver an address on "The Character of Doctor Edward Jenner and the History of his Discovery of the Value of Vaccination," which will be followed by a discussion on the history and status of vaccination in this country. At the afternoon session Doctor George M. Sternberg, Surgeon-General of the United States Army, will read a paper on "The Scientific Researches Relating to the Specific Infectious Agent of Small-pox and the Production of Artificial Immunity in this Disease;" Doctor Francis C. Martin, of Boston, will contribute a paper on "The Propagation, Preservation, and Use of Vaccine Virus." A general discussion will ensue on the scientific principles involved in the papers. At the evening session Doctor Eugene Foster, of Augusta, Georgia, will read a paper on "The Statistic Evidences of the Value of Vaccination to the Human Race," which will be followed by a general discussion.

A WOMAN PROFESSOR.

Doctor Eliza Maria Mosher, of Brooklyn, New York, has been appointed professor of Hygiene and woman's dean in the literary department of the University of Michigan. She will also assume charge of the woman's gymnasium when that building is erected. The professorial duties will be entered upon at the beginning of the next collegiate year. Doctor Mosher graduated from the medical department of the university in 1875, and began the practice of medicine in Poughkeepsie, New York. In 1877 she received the appointment of resident physician at the Massachusetts Reformatory Prison for Women, where she established and conducted a hospital of ninety beds, with a nursery annex comprising sixty additional beds. For a number of years she has been a successful practitioner in Brooklyn.

THE NEW YORK ACADEMY OF MEDICINE.

This organization has elected the following officers for the ensuing year: Vicepresident, Doctor Egbert H. Grandin; trustee, Doctor Joseph E. Janvrin; members of committee on library, Doctors Herman L. Collyer and B. Farquhar Curtis; member of committee on admission, Doctor Robert A. Murray. The following gentlemen were chosen to represent the Academy at the recent meeting of the Medical Society of the State of New York: Doctors William S. Gottheil, Reginald H. Sayre, Ralph L. Parsons, and Charles H. Richardson. The election of candidates to resident fellowship resulted favorably to the following: Doctors Frank J. Blodgett, George T. Hunter, George W. Smallwood, and F. C. Valentine. One candidate was elected to nonresident fellowship—Doctor Richard P. Francis, of Montclair, New Jersey.

THE MISSING LINK.

Doctor Dubois, a French surgeon attached to a Dutch regiment in the East Indies, recently announced the discovery of the missing link which is supposed to affiliate man with the monkey. While digging for fossils in Java this explorer unearthed fragmentary portions of a skeleton which were so peculiarly formed as to create the impression that the long-sought-for connection had been found.

The skull somewhat resembles the Neanderthal type. The frontal region is low and flat, the glabella and supraorbital ridges are enormously developed, and there is a distinct ridge extending from the curved line of the occiput to the temporal region, which is present in apes but absent in man. The cranial capacity is only about 1,000 cubic centimeters, while the average human skull affords a capacity of 1,500 cubic centimeters. The human microcephalic skull has a capacity of about 430 cubic centimeters, and therefore it was held by the skeptical that a skull of 1,000 cubic centimeters is merely semimicrocephalic, and that volume exclusively indicates little in favor of establishing the link. It remained for experts, however, to completely disprove the claims of Doctor Dubois. The descriptive report has lately been considered by Professor Cunningham, anatomist at Trinity College, Dublin, and Professor Brinton, anthropologist at the University of Pennsylvania, and these gentlemen unite in declaring the osteological specimens to be distinctly human, adding that they probably resemble the human bones from the cave deposits.

A HUMAN MONSTROSITY.

Doctor W. A. B. Treadway, of Stamford, Connecticut, reports meeting a prodigy in obstetric practice. The liver and intestines protruded through the ventral opening and a denudation was manifest at the dorsal and cervical spines and base of the brain. No family diathesis could be elicited. The mother had previously borne five healthy and normally-formed children, four of whom are living. The doctor was called to afford relief from pain induced by a greatly distended abdomen, and, learning that the woman was experiencing her last month of pregnancy, made a digital examination with the result of revealing a slightly dilated but rigid os. Distress was alleviated during the night by hypodermic injections of morphine, and in the morning the protruding membranes were ruptured by the finger, the liquor amnii escaped, the head descended, the face presented, and delivery occurred. The placenta appeared perfectly normal, but the cord was remarkably short, and the amniotic fluid exceeded a water pailful.

THE MEDICAL BOARD OF HARPER HOSPITAL.

The following physicians constitute the newly-appointed medical board of Harper Hospital: Chief of staff, J. H. Carstens; vicechief, J. K. Gailey; consulting surgeons, Theodore A. McGraw, Donald Maclean; attending surgeons, Daniel LaFerte, J. K. Gailey, H. O. Walker, E. T. Tappey; junior surgeon, Angus McLean; assistant surgeons, W. G. Henry, F. B. Tibbals; consulting physicians, C. A. Devendorf, Charles Douglass; attending physicians, George Duffield, W. R. Chittick, J. J. Mulheron, D. S. Campbell; consulting oculists, L. Connor, George E. Frothingham; attending oculists, George E. Frothingham, Junior, Don M. Campbell; consulting neurologist, David Inglis; attending neurologists, J. E. Emerson, C. W. Hitchcock; dermatologist, A. E. Carrier; laryngologist, E. L. Shurly; gynecologists, H. W. Longyear, W. P. Manton, J. H. Carstens, Helen F. Warner; microscopist, E. H. Sargent; consulting pathologist, Heneage Gibbes; pathologist and curator, P. M. Hickey; apothecary, Henry A. Kuhn; polyclinic staff: director, G. A. Varney; resident physicians, C. W. Barrett, B. R. Shurly, A. D. McLean.

A MEDICAL AUTHOR SUED FOR LIBEL.

Doctor Aubry, a Brest criminological physician, was recently sued for libel by a dissolute woman who had been instanced in "A Family of Criminals" and "The Contagion of Crime," two works published by this author. It appears that the doctor mentioned the name of a family who had incurred numerous convictions for various offences during a period of seventy years, and concluded the narrative with the statement that a female member of the family had pursued a career of lasciviency at the French capital, and that after waxing wealthy upon the debauchery of profligates, she retired in luxury. The court maintained that notwithstanding the facts were as represented in the books, still, the author was not justified in adverting to them; but inasmuch as their recital was prompted by a desire to further science rather than to foster scandal, the defendant was liberated upon paying the costs of both litigants.

AN ADVANCE IN MEDICAL EDUCATION.

The faculty of the medical school of Harvard University almost unanimously adopted the following requirement at a recent meeting: "In and after June, 1901, candidates for admission to the medical school must present a degree in arts, literature, philosophy, science, or medicine from a recognized college or scientific school, with the exception of such persons, of suitable age and attainments, as may be admitted by a special vote of the faculty taken in each case. All candidates, whether presenting a degree or not, are and will be required to satisfy the faculty that they have had a course in theoretical and descriptive (inorganic) chemistry and qualitative analysis, sufficient to fit them to pursue the courses in chemistry given at the medical school." The number of college-bred students entering this school decreased from 53.9 per cent. in 1884 to 28.2 per cent. in 1892, from which date the ratio has gradually increased until it reached 40 per cent. in 1895.

THE VIRGINIA HEALTH BILL.

A bill has been introduced into the General Assembly of Virginia which provides for the amendation of the law creating the State Board of Health. The new measure empowers the Governor to appoint seven physicians who shall convene at the capitol at least once in every three months. The secretary is to be a salaried officer, but the other members will be paid only for actual time spent in the performance of duties encumbent upon their position, the sum of four dollars per day being specified, together with traveling expenses. The annual expenses of the Board are provided for by a clause appropriating $5,000. Three of the members shall be chosen from the city of Richmond, and four from different sections of the state, their tenure of office being four years, or until their successors are appointed, the Governor to fill any vacancies that may occur.

MINOR INTELLIGENCE.

There are 10,000 students studying medicine in France.

New Orleans annually expends about $1,000,000 for milk.

A Young woman in London recently died under the influence of pental.

THE Massachusetts Cremation Society incinerated eighty-seven bodies during the last year.

THE medical department of the University of Vienna has an attendance of 2,213 students.

A RECENT Berlin dispatch states that doctor Behring has discovered an anticholera serum.

A HOSPITAL for the treatment and investigation of tuberculosis will be erected at Alland, Austria.

THE University of Pennsylvania is to establish a Fellowship of Anatomy in honor of the late Doctor Leidy.

DOCTOR A. K. MINICH is the newly elected president of the Alumni Association of Jefferson Medical College.

CHLORIDE of chromium is advocated in the treatment of cancer. Its application is pronounced very efficient.

SUBURBAN sanitaria for consumptives are to be erected in Berlin, a society having been founded for that purpose.

A BILL to incorporate a postgraduate medical school in the District of Columbia has unanimously passed the senate.

SEVENTY-SIX physicians were created at the annual commencement of the Cooper Medical College at San Francisco on December 5, last.

DOCTOR LANE, of San Francisco, has promised $2,000 to establish an annual course of ten lectures at the Cooper Medical College of that city.

A BILL providing for the transfer of the New York City asylums for the insane to the state has been introduced in the legislature of the Empire commonwealth.

THE Medical and Chirurgical Faculty of Maryland dedicated their new library and hall on the 11th ultimo. Doctor James R. Chadwick, of Boston, delivered the address of the evening, his subject being " Medical Libraries."

DOCTOR JOHN BYRNE was tendered a complimentary dinner by the Brooklyn Gynecological Society on the evening of the 23d ultimo. The honor was conferred as a testimonial to the doctor's efficiency as first president of the society.

ANTIVACCINATORS may now take comfort. A prospectus has been issued by the Vaccination Virus Vanquisher Company limited which, from the extent of its alliterativeness, ought to be as efficacious as S. S. S. or Pleasant Purgative Pellets.

THE legislature of Mississippi are considering a bill which provides for the reorganization of the State Board of Health, and indications warrant the statement that discussion thereon will be as spirited as that caused by a similar measure in Michigan last year.

THE New York health board pathologists, Doctors Herman Biggs and T. Mitchell Pruden, have prepared a report upon the unhygienic practice of spitting in public places. The document is accompanied by resolutions providing that signs be posted in surface and elevated cars and municipal and federal buildings.

The Bertillon system of identifying criminals will probably be adopted in New York State. It has been recommended by a joint committee from the State Medical Association and the State Prison Association. The method employed by Bertillon was described in The Physician and Surgeon some time ago.

The Board of Health of New York City propose amending the sanitary code by a provision prohibiting the common use of knives, forks and spoons on free-lunch counters, and the use of roller towels in the lavatories of saloons, restaurants, and other places for public accommodation.

Scarlatina recently made its appearance in Bellevue Hospital. Two physicians and twelve nurses who contracted the disease in this hospital were removed to the Willard Parker Hospital. The fever has extended to the city institutions on Blackwell's and Randall's Islands, the resident physician, a nurse, and an attendant having become infected.

The New York County Medical Association elected the following officers on the 20th ultimo: President, Doctor Joseph E. Janvrin; vicepresident, Doctor H. J. Boldt; recording secretary, Doctor P. B. Porter; statistico-corresponding secretary, Doctor N. G. Bozeman; treasurer, Doctor John Hinton; member of executive committee, Doctor John Shrady.

The Hospital of the Protestant Episcopal Church at Philadelphia has been enriched $3,000,000 by the will of the late Mrs. Anna A. Aspinwall, of Pittsburgh. A stipulation provides against denominational discrimination. The institution is conducted for the benefit of white female sick or convalescent orphan children, and the will specifies that preference be accorded children who have neither parent living.

The law recently enacted in Oregon to regulate medical practice is likely to prove ineffective. A Chinaman in Portland was practicing without a license, and proceedings were instituted to terminate his medical career in that commonwealth. It was necessary to have three trials before conviction could be obtained, and then the culprit was liberated on payment of a fine of fifty dollars. A second offender was acquitted.

The Kalamazoo Academy of Medicine held its annual meeting on the 28th ultimo. About one hundred physicians from Southwestern Michigan were in attendance, an interesting program was presented, and a bounteous repast was served. The following officers were elected for the ensuing year: President, Doctor Belknap, of Niles; vicepresidents, Doctors Elliott, of Hickory Corners, and Schaberg, of Kalamazoo; treasurer, Doctor Rockwell, of Kalamazoo; secretary, Doctor Ranney, of Kalamazoo.

The Illinois Health University is the title of a concern doing business at Chicago. It dabbles in medical degrees, and advertises to confer "M. D.," without requiring attendance or personal examination, on applicants who reside in states where the practice of medicine is not regulated by law. Several "graduates" of this school recently began plying the healing art in Michigan, but the school itself is likely to come to grief through the instrumentality of Doctor Baker, the efficient secretary of our State Board of Health, proceedings having been instituted against it by the attorney general of Illinois.

Two bills have been introduced in Congress providing for the reinstatement of retired army officers. One empowers the Secretary of War to designate five medical officers of the army who shall constitute an Examining Board to convene at Washington in January and July of each year to conduct an examination of retired officers who desire restoration to active service. In the event of a favorable report, the president is authorized to restore any such applicant "to the grade and rank he would have held" had he not been retired, or "to appoint him to any other grade and rank" which the examination has proved his capability.

THE question, as to whether or not small-pox hospitals are a nuisance, has just been decided in the negative by the English High Court of Justice. Steps were in progress to erect one of these hospitals on a vacant lot surrounded on all sides by a common upon which children played and cattle grazed. Notwithstanding the isolated location the inhabitants of that quarter interposed an objection to proceeding with the building by bringing an injunction against the hospital management. Experts for the prosecution testified that small-pox could be conveyed for long distances by air, but the judge evidently regarded this all wind as he declined to sustain the injunction.

THE Loomis Hospital and Dispensary for consumptives, located at 230 West thirty-eighth street, New York City, is invested with the following staff: Consulting physicians, Doctors A. Alexander Smith and Henry F. Walker; consulting surgeon, Doctor Charles McBurney; consulting gynecologist, Doctor William M. Polk; pathologist, Doctor Warren Coleman; visiting physicians, Doctors Henry P. Loomis and Charles E. Quimby; house physician, Doctor Joseph Carlisle De Vries. The board of managers has elected the following officers: President, Mrs. Richard Irwin; vice-president, Mrs. Henry Chapman; treasurer, Mrs. Alfred L. Loomis; secretary, Mrs. John A. Lowery.

RECENT PUBLICATIONS.

REVIEWS.

MANUAL OF GYNECOLOGY.*

DOCTOR BYFORD has given the medical student an exceedingly useful and practical manual of gynecology, complete enough for study or reference during his college course, and intended as a guide for his first years of practice.

The plan of the work includes two kinds of type, in the first of which is described those facts essential to the student, and in the second and smaller type the matter which more concerns the specialist.

The first part treats of the diagnosis and treatment of general gynecological diseases. This is followed by one on development and abnormalities of development. Then in turn are treated of, functional and nervous diseases, traumatic lesions of the genital tract, displacements, inflammatory lesions, genital tuberculosis, malignant diseases, tumors of the female genital organs, ectopic pregnancy, pelvic hematocele and pelvic hematoma. Thus the whole field of the medical and operative treatment is carefully traversed.

The author's style is clear and lucid. A large number of illustrations elucidate the text. The work is in every way a successful one.

*By Henry T. Byford, M. D., Professor of Gynecology and Clinical Gynecology in the College of Physicians and Surgeons of Chicago. 234 Illustrations. Price, $2.50. Philadelphia: P. Blakiston, Son & Company.

A MANUAL OF SYPHILIS AND THE VENEREAL DISEASES.*

THIS manual is a compendious resume of all practical facts in the modern treatment of syphilis and the venereal diseases. The subjects of which it treats are carefully reviewed and the therapeutics suggested are ample to meet cases of all complexions and characters. The work may safely be recommended, being modern in spirit, and concise and complete in clinical illustration.

*By James Nevins Hyde, A. M., M. D., Professor of Skin and Venereal Diseases in Rush Medical College, and Frank H. Montgomery, M. D., Lecturer on Dermatology and Genito-Urinary Diseases in Rush Medical College. Forty-four illustrations and eight full page plates in colors. Philadelphia: W. B. Saunders.

THE PHYSICIAN'S VISITING LIST.*

IT is as greeting an old friend that attention is once again directed to Blakiston's Visiting List. Recommendation of this excellent pocket-book is superfluous. It is all that it has been in the past, which is a certain indication of utility in the future.

*Price, $1.00. P. Blakiston, Son & Company, Philadelphia.

PRACTICAL URANALYSIS AND URINARY DIAGNOSIS.*

THE purpose of this work is stated to be "to furnish the student, physician and surgeon in one moderate-sized volume, the essential features of our knowledge of the urine and urinary diagnosis, thoroughly up to date, and in the most systematic, practical and concise form." This purpose has been satisfactorily accomplished, and a few features of the work deserve mention because of special interest. The work is divided into two parts. Part I relates to "Analysis of Urine." Part II relates to "Urinary Diagnosis." Section III in the first part, relating to "Albuminuria," is one of the most complete and satisfactory discussions of the subject we have met with. There are discussed the causes, clinical significance, detection of albumin in the urine, value of different tests, method of testing for albumin in the urine, and determination of albumin in the urine. Of the tests for urine special attention is paid to (1) heat; (2) the author's method (raising the specific gravity of the urine ten or fifteen degrees by the addition of a little of a saturated and filtered sodium chloride solution, filling a test-tube two-thirds full with the urine, adding one or two drops of strong acetic acid, and boiling the upper inch a half minute over a spirit lamp); (3) nitric acid test; (4) the ferrocyanic test, mention being also made of several other tests for albumin; (5) potassio-mercuric iodide; (6) picric acid; (7) sodium tungstate; (8) acidulated brine test; (9) nitric magnesium test; (10) phenic acetic acid; (11) trichloracetic acid; (12) Heynsius'; (13) Hindenlang's; (14) acetic acid and sodium sulphate; (15) biuret test; (16) Millon's reaction; (17) Xantho-proteic reaction.

The author has made a very careful study of the tests named. He concludes as follows: "Which many of these later tests, notably 5, 6, 7, 8, 9, 10 and 11, are exceedingly delicate reagents for albumin, * * * yet their increased sensitiveness is nearly always obtained at the expense of trustworthiness." There is a careful study of the influence of mucin as a source of fallacy in the various tests. The author is partial to the ferrocyanic test which ten years ago he claimed was the most ready and trustworthy on the list. In a foot note he remarks: "The fact that within the past five years the test has been given preference in many of the leading laboratories and clinics in Continental Europe over all others only confirms the author's views."

For quantitative work in testing albumin the author's centrifugal method is one of value because of the short time required to get results.

In Part II some attention is given to the anatomy of the kidney. If we were to change the book at all it would be in this part to introduce as satisfactory a set of plates relating to the anatomy and physiology of the kidneys as are found in D. Campbell Black's treatise. However, there may be a question as to whether that matter belongs in a work of this character.

The appendix relating to the examination of urine for life insurance is concise and alone is worth the price paid for the whole work. We quote one suggestive paragraph: "Minute quantities of albumin are often observed in the urine of men at and beyond middle age, who not only appear perfectly healthy, but who have, as a matter of fact, enjoyed the most typical robust health all their lives. Among this class will be found the largest number of those cases which have always proved so unprofitable to life insurance associations, through concealed or overlooked disease of the kidneys."

Dr. Purdy's work should be in the library of every physician and surgeon.

*A Manual for the Use of Physicians, Surgeons and Students. By Charles W. Purdy, M. D., Queen's University, Kingston; Fellow of the Royal College of Physicians and Surgeons, Kingston; Professor of Urology and Urinary Diagnosis at the Chicago Postgraduate School of Medicine; Author of "Bright's Disease and Allied Affections of the Kidneys;" also of "Diabetes: its Causes, Symptoms, and Treatment.

MEDICAL PROGRESS.

PEDIATRICS.

IMPORTANT ABOUT MILK.

Doctor Rotch states that the infant's digestive functions have been from time immemorial adapted to the digestion of an alkaline or neutral fluid, not to an acid one. Human milk is the food on which the greatest number of infants live and thrive, and on which the smallest number die proportionately to any other known food; partly owing, perhaps, to the moderately alkaline reaction of this milk. We should at least be very suspicious of an acid breast milk. The best results obtained in artificial feeding are those in which the food is alkaline in reaction. This is usually accomplished by the addition of an alkali.

Mr. G. E. Gordon, in the course of extensive observations of milk, found that cows fed in certain parts of Kentucky upon blue grass, and also in other parts of the West, produced a milk which was alkaline, and which remained so for a number of hours after milking. It is known that cows fed on comparatively dry foods produce comparatively acid milk. Extensive experiments prove that cows fed freely on sugar beets, which supply a large amount of carbohydrates, produce a faintly alkaline milk. The cows fed partially on beets showed neutral or faintly alkaline reaction; the cows that received no beets showed a uniformly acid reaction. This milk was carried twelve miles. The milk from one-third of the herd, which had been fed on beets, was added to that of the other two-thirds. The reaction was even then found to be faintly alkaline. This is of great interest as showing that the product of the cow can not only be made to correspond in reaction to that of human beings by means of perfectly natural feeding, and under perfectly normal conditions, but that this alkaline modification can be produced to such a degree that one-third of the milk is sufficient to destroy by its alkalinity the acid of the remaining two-thirds.

It was found, further, that the milk drawn through a sterile canula was practically sterile. These experiments provide a means of producing a milk practically sterile, but not sterilized.—*The Archives of Pediatrics.*

MEDICAL MELANGE.

A NEW TREATMENT FOR FEVER.

A NEW curative treatment has been discovered by a Transvaal doctor. Having noted the fact that milk absorbs poisonous germs from a bucket, he decided that it might be possible to turn this germ-absorbing power to a therapeutic account. He put his ideas to the test, and now asserts that he has cured persons of small-pox, fevers, diphtheria, and other maladies by simply wrapping them in milk sheets. The patient is laid on a mattress covered with blankets, and is packed in a sheet just large enough to envelop the body. This sheet has first been saturated in a pint and a half of warm milk, and is applied to the body without wringing. After this treatment, which lasts about an hour, the patient is sponged with warm water, or is put into a warm bath.—*The Medical Press and Circular.*

THE TREATMENT OF CHRONIC CONSTIPATION WITHOUT MEDICINE.

J. SCHREIBER (*Wien. Med. Presse*, Numbers XXI and XXII, 1895) calls attention to the great change in the treatment of chronic constipation during the last ten years. Before he had adopted the mechanical treatment he was unsuccessful in relieving ten per cent. of his patients; since then he has had only three failures in one hundred cases. His course of manipulation extends over six weeks to three months, and consists in systematic massage of the large intestine for eight to ten minutes daily. A considerable amount of power is employed, and the rubbing and pressure are directed by anatomical considerations. The cure is assisted by gymnastics and exercise; if necessary, mild aperients may also be employed. The diet is also carefully regulated. Before massage is begun the absence of floating kidney, uterine or ovarian disease must be ascertained.—*The Times and Register.*

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ORIGINAL CONTRIBUTIONS.

MEMOIRS.

THE HIGH SCHOOL AND THE EDUCATION OF GIRLS.*

By ELIZABETH M. FARRAND, M. D., Port Huron, Michigan.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

The question of the reconciliation of the public schools with public health is one to which we, as physicians, are often compelled to give attention. It is a question which is becoming more and more pressing, as the course of study is enlarged. The high schools are being raised to the standard of the small colleges, there is more and more a sustained effort after a fine record, and yet the age at which the pupil feels that he or she must have accomplished all this is not raised.

It is a matter in which physicians alone can do little, and only in individual cases. We can point out the wrong done by some of the present methods, but parents must give an intelligent support, citizens must be willing to spend more liberally, and professional educators must yield something to physical well-being. It is unfortunate, of course, that man's mental efforts, his aspirations and acquisitions, should be limited by physical weaknesses, but he gains more by recognizing than by ignoring such limitations.

We, as physicians, have all, no doubt, had a similar experience. Soon after school opens some young student comes to us, and then another, until toward spring the number is greatly increased. Girls come to me—perhaps boys also to you. The story of all is about the same. They are tired in the morning upon rising—they are tired all day. There is headache, backache, no appetite, restless sleep. I have just held a conversation with one—a strong, hearty-looking girl of about fourteen years—somewhat after this manner. She had a constant backache for three weeks or more.

"What time do you go to school?"

"A quarter to eight."

"Do you eat breakfast?"

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* Read before the Port Huron Academy of Medicine.

"No, I do not care for breakfast. I cannot eat."

"Where is your room at school?"

"On the second floor, but I have to go to the third floor three or four, sometimes six, times in a morning."

"What time do you go home?"

"At 1 o'clock."

"What do you do in the afternoon?"

"Practice for three hours."

"Then what do you do?"

"Walk out a little. I have not much time."

"What do you do in the evening?"

"Study."

"Do you sleep at night?"

"My back aches so, I cannot."

And someone asks, "What can be the matter with this girl's back?"

Probably you have done as I have done: entered an emphatic protest to all this, and then have yielded to the demand for something to help tide over the time until an examination is passed, or school is closed. We all know that many of these girls—girls from fourteen to sixteen and eighteen years old—are coming back to us by and bye: they will be thin, anemic, constipated. There will be a story of scanty menstruation, of pain at the menstrual period, of pain in the groin, of backache, probably of pain around the heart; at any rate of pain somewhere, and usually on the left side. We shall find an imperfectly developed uterus, abnormally sensitive ovaries, a narrow chest, an excitable heart, a weak and explosive nervous system—all ready for the gynecologist's electric current and iodine applications, for his dilator and curette; all ready, possibly, for the abdominal surgeon.

It is true that it is not the school girl alone who has these symptoms. There are at least two other classes. One is represented by the servant girl who has been used to poverty, to poor food and foul air, and scanty clothing and utter carelessness. The other is represented by the young girl who is reared in luxury and absolute idleness, accustomed to rich food and late hours. But the greater number of our girls are in school, and their school work should be so arranged that a reasonable education is possible without detriment to health.

The high school girl is, as a general thing, growing: the framework of her body and all her essential organs are in process of development. More especially is this true of the pelvic organs. She is entering upon her first climacteric. It is a time when she should be surrounded by every hygienic influence—good air, good food, good sleep, sufficient exercise, rest, probably, at certain periods, freedom from nervous excitement and exhausting emotions.

Viewed from a hygienic standpoint, as related to the symmetrical development of young girls, our public school system is very faulty, our school buildings are little better than slaughter houses.

(1) *The girl needs good air.*—It is perhaps too much to ask that each student should have the 800 cubic feet of air which is said to be necessary to an individual. But where is the schoolroom which at all approximates this? Where is one that is even moderately well ventilated? We can all remember the sensation of heat in our heads, the dullness which crept into our brains after an

hour or two in a schoolroom. And we can all remember the stream of cold air with which we were occasionally deluged, when a window was opened for the relief of that condition and its cause. The same complaint is prevalent now.

(2) *The girl needs good food.*—She should not go to school if she cannot eat her breakfast. Too often it happens that she rises only in time to hasten to school, especially since the daily session opens at 8 o'clock; she has not time to acquire an appetite, nor to satisfy it properly if she had it. To be sure, if she should leave her bed by 6 o'clock, all this might be accomplished. But more frequently she rises at half-past seven and starts for school at a quarter of eight: a very short time for bath, breakfast, and the other duties which health demands. Right here, I am sure, is one of the causes for that root of many evils—*constipation.*

I am aware that both teachers and scholars favor the system of one daily session. *It saves time.* And our American way is to sacrifice health to the saving of time and the getting of money. But young girls should be saved from their own indiscretion by the older ones whose duty it is to think for them.

(3) *The girl needs good sleep.*—"Early to bed and late to rise" is sometimes a very good motto, for growing girls. An excessive and unhealthy weariness, a nervousness engendered by bad air, insufficient food and other faults of living, prevent sleep, oftentimes, in the early hours of the night.

(4) *The girl needs exercise in the open air.*—Nearly all public school girls have exercise enough, such as it is. In our own high school the students must climb two long, tiresome stairways in order to reach the assembly room. Some of the recitation rooms are on the floor beneath the assembly room; and one, at least, is on the lowest floor, and the student must go back and forth. The superintendent's room is also on the lowest floor and there is an occasional errand for the pupil there.

Nearly all school buildings are at fault in this matter. Since the burning of the high school building in Detroit, the old Biddle House has been used for school purposes. I know at least one girl who has paid dearly for climbing the many stairways there. A year or so ago I received a letter from a young lady student of the State Normal School at Ypsilanti, saying that according to the requirements she must climb four long stairways each day; she could be relieved from attendance upon "chapel" and so escape one stairway if she could bring a note from a physician saying that her health required some care in that direction. I could not consider the religious instruction a compensation for the stair-climbing, and willingly sent the required note.

The stairways in the north and south halls at the University in Ann Arbor are the worst I have ever seen. It really seems to be true that the higher one climbs intellectually in the realm of education, the higher and more difficult is the old wooden stairway which leads up to it.

It is a serious matter for our girls. The aching back, the pain in the groin, that "bearing down feeling" after such an effort of which many will complain, all bears testimony to the injurious effect of this form of exercise.

(5) *The girl needs rest at certain periods.*—The question of rest at the menstrual period has excited considerable discussion. The fact that it is utterly impossible, in the present state of society, for many girls and women to rest at that period, need not blind one to its advantages. In my mind there is no doubt

that it would be better for most girls, especially until the function is fully established and the pelvic organs are fully developed, to rest for a day or two at the beginning of each period. To many girls it is absolutely essential, and the neglect of it is the root of great evil. But what high school girl with any ambition at all will do it? How few mothers would encourage such a thing! How the best and wisest of teachers would frown upon anything which so threatens the standing of her class!

Every effort is made to increase the number of those who are never absent. When I see the list of the nonabsentees as printed in the daily papers, I wonder how much has been risked for the sake of that empty record. There can be no question that some of those names would be missing, were there little better judgment exercised by the governing powers at home. It means that girls have braved pelting rains, have climbed over and ploughed through deep snow drifts, have breasted fierce winds and intense cold at times when at least they should have been quiet, even were they not in bed. When a mother tells me that her child has not been absent from school for a certain number of years, I cannot congratulate her. I am willing to assert that *no* child, boy or girl, is so perfect and so hardy that he or she does not sometime run great risk in going to school.

(6) *The girl needs freedom from nervous excitement and exhausting emotions.*— The studious boy does his best, and is often sensible enough to be satisfied with that; or, if not, he works off his dissatisfaction in some out-of-door game. The studious girl worries and frets if her best is not near perfection. Quiet study, without haste and without worry, is a very healthy occupation for girls as well as for boys. But the hurried preparation of a fixed task; the anxiety, not especially to learn, but to reach a certain standard of marking; the fear that one may not "pass;" the nervous tension and excitement attending the periodical examinations, are often disastrous.

How, then, is the girl to get an education and retain her health? In some respects, the young ladies' boarding schools have an advantage over the public high school. The whole life of the girl is under the care of the superintendent of the school; and if she is a wise woman, as she often is, she takes into consideration the individual health and strength and ability, and regulates school life according to it.

But few girls can go to boarding school; and indeed very few girls now-a-days are satisfied with a boarding school education. And the question is so far limited as to become, How shall the girl get an education in the public schools and retain her health? Only by remodeling the school buildings. It is worse than useless to try for the unattainable—buildings of one story are probably out of the question; but in any school building of over two stories, there should be an elevator. There should be a better relation between the size of the room and the number of the pupils, and the most perfect system of ventilation that modern science can provide, should be used. Furthermore, the whole school system needs remodeling. It is fast becoming a most perfect machine—especially constructed for turning out statistics. How it can be changed, is a question which the educator must determine. It cannot be possible that there cannot be in our public school system a certain amount of elasticity to make it meet the mental and physical requirements of different pupils.

Would that our educators might all have a thorough knowledge of mental hygiene, and of physiology, and some respect for pathology, and a wholesome fear of pathological conditions. Would that they might all be endowed with common sense, without which knowledge is as a ship without a rudder.

Of equal importance is it to educate the parents. We know that the debility of many a girl caused by the course pursued during her school years, although it may be so far overcome by tonics as to enable her to go on with her school work, is nevertheless the foundation of very serious trouble. But the task is a great one of arousing ambitious parents, and of creating a public opinion which shall demand of school officers certain things for the coming school-girl:

(1) Good air, by furnishing schoolrooms that have better ventilation.

(2) Good food, by giving her time to eat her breakfast.

(3) Exercise in the open air, by relieving her of an injurious form of exercise, and so sparing her strength for walking, riding, skating, anything out of doors.

(4) And finally, it is wise to so arrange the time of study, to so limit the amount, to so conduct the recitations and examinations that sleep is not lost, that rest may be taken when necessary, that the student's ambition is not unduly wrought upon.

Our best and most useful men and women only rarely come from the ranks of the brilliant and faithful young students who were never absent or tardy.

REPLY, AFTER THE DISCUSSION, TO SUGGESTIONS MADE BY THE SUPERINTENDENT OF THE CITY SCHOOLS, AND OTHERS.

It is said that there are other influences—home influences, society influences, heredity, dress—which go to cause the ill-health of girls to as great or greater an extent than school influences. That is granted and is worthy of all emphasis. But were it possible to prove by statistics that the home and society life was more injurious to health than school life, or that the girls who leave school at a very early age have the same ailments as do those who go on through the high schools, this would not alter the question at all. It still remains true that there are errors connected with school life which are injuring the girls, and should be remedied as far as is possible. That a remedy is not at hand for them all; that some of them are necessarily inherent in the public school system, need not hinder us from recognizing them, or from making an effort to modify them.

A great responsibility lies with the parents. It is their authority which should curtail the school work when necessary; it is by their authority that the girl should be kept from school a week, or a month, or a year, sometimes; it is for them to control the young student's desire to *finish* at a certain age, or in a certain number of years.

In any healthful system of education there must be time for recreation and relaxation. "All work and no play" is just as dull for Jill as for Jack. It is a mistaken notion that change of work answers the same purpose. In our primary schools, the little ones are sometimes rested from their labors by being put through certain calisthenic exercises. It is a change; to use a popular expression, it sets the blood to circulating, and is good in its way. But is it relaxation? Notice the fixed attention, the effort to be prompt in time, and exact in motion, and judge.

It was not my intention, as some seemed to think, to lay all this burden upon the teachers. Yet several times there has come to me the knowledge of something which leads me to think that occasionally a teacher is more zealous than wise. Two or three years ago, about a month before the closing of school, and when the heat of summer was already oppressive, a teacher told me that a proposition had been made to her by the high school principal for the getting up of an entertainment at the end of the year. I think the contributors to this entertainment were to come, not from the graduating class, but from the class next lower; and the object, I believe, was money for some good purpose connected with the school. I told this teacher, who was then under my care, that she could say to the principal that her physician positively forbade her to engage in anything of the kind. And this broke up the entertainment, to the pleasure, I have no doubt, of some tired girls and boys.

It is not true that these tired, ailing pupils are altogether among those who dissipate their strength in home duties or social pleasures. Many of them are the conscientious students who are giving their best efforts to their studies. Their teachers do not know that they are suffering; they make no complaints; they are always at school; they are always ready in recitation. They are often the ones who are quick to respond to a teacher's encouragement.

It is impossible in any system of education, as in any course in life, to entirely eliminate anxiety and nervous tension and dread. But this is something over which the teacher has great power of control. There are some persons who have such a gift for teaching, such a gift for helping and understanding, and such a just and equable disposition that school life flows very easily on without much apprehension. This, I take it, is one of the most irremediable of all the difficulties. Because pupils are born with unstable nervous systems; and because teachers are not all born to their vocation, some are artificially made. Some skepticism was expressed as to the harm of stair-climbing, a skepticism which surprised me as coming from anyone who has climbed our high school stairs. I have done so myself and found them extremely tiresome. I have heard bitter complaints from teachers, who probably walk up slowly and quietly and as infrequently as is possible. It is true that a child will run up and down stairs at home many times a day, but that is comparatively easy. I am familiar with many of the stairways in this city, and I know of only two or three that are at all difficult.

It is not supposed that the school board will tear down buildings and build anew at our suggestion. But something will soon have to be done to our high school building, and then we may hope that the *right* thing will be done.

It was said that if girls were dressed differently, there would be less disease. Growing girls should certainly dress without corset, and without heavy skirts: and that is quite possible even with the present methods of dress. There is no doubt that dress is a large factor in the causation of disease. That man or woman who will devise a system of dress for girls and women that is comfortable and healthful, which shall at the same time receive the approval of men and women of sensitive feeling and refined taste, will be one of the greatest benefactors of the age.

All this may be used as an argument against the education of girls in the public schools, especially against coeducation, and perhaps against the higher education of women. I do not think it is a just argument. The public school has advantages not to be obtained in private study; the effect of the boy's mind upon the girl, of the girl's mind upon the boy, is desirable. The girl is quicker in apprehension, and readier of tongue, she matures earlier, and, as a general thing, she takes greater pleasure in study. All this makes it easier for her than for the boy, and to some extent makes up for her disabilities.

We cannot ignore the signs of the times. The woman of higher education is coming to the front. She is to be the leader in society as elsewhere. And woman is not slow to see what will give her precedence, and to strive for it. It is no longer a question of what *ought* to be, but of what *is* to be. In the public schools and colleges she can best gain what she wants. As the world grows older, and our country becomes more thickly settled, as life becomes less simple and men and women call those things comforts which formerly were luxuries, it happens that fewer girls marry. They must support themselves, and the profession of teaching is the most available one. Girls prepared in the public schools get the best positions.

I know a woman, herself the product of the public schools and the university, who has just put her little seven-year-old girl in school. She told the superintendent that she should be perfectly independent about the child's school life; should keep her out when she thought best; lessen her work when she thought best, and should herself visit the school once a week to make herself familiar with its workings. Perhaps in such women lies the germ of perfect success for our school system.

I cannot think that the spirit of competition, the desire to excel, is one of the great virtues of our public school system. I have been accustomed to regard it as a necessary evil. It has little effect upon the dull pupil, and is too stimulating for the bright ones. But the attrition of one mind with many others is quite a different thing, and one from which we feel the beneficial influence from childhood to age.

Finally, all this is not "much ado about nothing." If it were simply that overwork and injudicious work and worry caused now and then a fever or some temporary illness; if it were simply that once in a while it caused a death, it would be of less moment than is the permanent interference with development. Just as in intrauterine life there is sometimes an arrest of development which results in a monstrosity of which usually speedy death is the merciful fate, so at this later period is there oftentimes an arrest of development, none the less a deformity because it is covered by muscle and bone; a deformity which has led many a woman to long for the death which does not come to her release.

TALIPES VARUS.*

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THE great diversity of opinion entertained among surgeons concerning the proper method of handling cases of club-foot seems sufficient excuse for asking your attention for a few minutes to the consideration of some practical points connected with this subject. It is a subject that has been much discussed, both as to its pathology and treatment.

*Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

The cause of the congenital variety, which in nine cases out of ten is of the varo-equinus type, is probably the forcible contracture of the muscular walls of the uterus upon the feet of the fetus as it lies in the womb in its usual position of flexure of almost all the points of the body, the feet at the same time being rotated inward. The other varieties of talipes, especially valgus, are now rarely met with as congenital affections.

When we come to consider what shall be done for this class of cases, whether congenital or acquired, and at what time our treatment shall commence, and in what that treatment shall consist, we arrive at that point where there are many divergent views.

The majority seem to favor the plan of commencing the treatment immediately after the birth of the child, by manipulation and fixation, so that the various structures binding the foot in its vicious position may be the more easily stretched. Brilliant results are claimed to have been obtained by this early and persistent treatment. I have no doubt that such is the case in the hands of some surgeons, but it requires an enormous amount of time and patience on the part of the surgeon and relatives. It means at least several months of constant treatment and careful watching until the child arrives at that time of life when he begins to walk, and thereby we have the weight of the body to assist in keeping the foot in the corrected position. Even this may not be sufficient, and after carefully watching over our patient month after month and year after year, he returns to us with a relapse of his trouble.

In these relapsed cases it is not advisable to resort to any treatment short of an operation, dividing the several structures that offer resistance. If we still cling to the method that has been fashionable for so many years, those structures will be divided under the skin. In cases accompanied with much inversion of the foot it is advisable to cut the tendons of the anterior tibial, posterior tibial, and long flexor of the toes, leaving the tendo-ACHILLIS intact, as it will assist in steadying the foot in the efforts at bringing it around in a straight line with the leg. When this is accomplished the tendo-ACHILLIS is severed, when the heel is usually readily brought down. When the deformity is not severe, as when there is not much concavity along the inner border of the foot, division of the tendo-ACHILLIS alone will often suffice to remedy the deformity.

This subcutaneous division of structure has not proven particularly successful in my hands. Too many of my cases have come back, perhaps, after several months with their deformity as bad as it was in the first place. Neither has the treatment by manipulation and passive motion, commenced immediately after birth and persisted in for some months after the foot had been brought around in a normal position, been attended with very flattering results. I have in mind now a case in which I commenced the treatment a few days after the birth of the child and kept it up persistently until the child was a year old when, the feet having been straight for several months, treatment was discontinued and the parents instructed to keep a close watch, and to report immediately if any tendency to relapse was noticed. They did as well as most parents do under similar circumstances, and brought the child back to me when the feet were as much deformed as they were in the first place.

That is only one of several cases which turned out similarly in my practice. I believe the skin on the inner border of the foot, the anterior portion of the internal lateral ligament and the superior astragalo-scaphoid ligament have much to do in producing relapses. No matter how much they are stretched there is great tendency to contraction and nothing short of thorough division will overcome this tendency to contraction.

PHELPS undoubtedly recognized this fact when he advocated free division of all the opposing structures from the inner border of the foot in cases of varus. This is the operation that I have almost exclusively performed for the past four or five years, even in children immediately after birth, and I have yet to see the first case of disastrous results following its adoption. I am aware that it is recommended not to resort to this open operation in children under one year of age, but I look upon it as the only method worth considering when an operation is demanded. It is so easily performed, and accomplishes the object sought so thoroughly, with so little mutilation of the foot that it must be looked upon as a perfectly safe procedure.

PHELPS' method is especially adapted to old relapsed or neglected cases. In those it is my belief that we can accomplish much more by this open method without any risk of evil consequences than we can by the subcutaneous division of the several tendons and resort to forcible traction by means of appliances, which are liable to cause bruising and sloughing of the soft parts, or by resorting to excision of the astragalus or cuboid bones, or taking out a wedge-shaped piece of the tarsus from the outer border of the foot. By opening up the mediotarsal joint we accomplish in three months what it would take perhaps three years to achieve by any other method.

I have here a patient to show you, aged ten years, who was born with double talipes varus. The child, the mother tells us, was treated faithfully for his deformity by the family physician every day for a whole year and every other day during the next year. The plan pursued here was the usual one of manipulating with the hand and applying splints. He was still wearing braces when he applied for treatment at the Children's Free Hospital, presenting a severe form of varus as you see in this photograph which I show you. We operated upon this boy on February 23, 1895, by PHELPS' method and discharged him May 4, 1895, in the condition in which you see him now. No splints of any kind have been worn since the wound has been healed. He has been able to get along with a pair of ordinary shoes.

A BRIEF REVIEW OF TWO HUNDRED AND SEVENTY CASES OF LABOR.*

BY WALTER H. SAWYER, M. D., HILLSDALE, MICHIGAN.

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FEW general practitioners have time or opportunity for original investigation, and must accept and put to test the results of those working in special lines. If, however, we can add to the material from which you may make your deductions we have not been wanting.

The most unfortunate necessity to the progress of medicine is the tendency to jump at conclusions and plant our feet upon untenable ground. We are constantly having to retreat from positions accepted as proved. This involves medicine in a chaos that is bewildering, but it is gratifying to see in this confusion everything tending to a right end. We are questioning our best established therapeutic measures, causes are being made clearer, and the halo of mystery and empiricism is fading while we are combating cause rather than effect. The practice of surgery and obstetrics has been revolutionized and all by scrupulously putting in force a fundamental principle—cleanliness, cleanliness rendered more nearly absolute by making innocuous the overlooked uncleanliness and giving to us means before unsafe or impossible. Septic conditions can no longer be looked upon as unavoidable accidents but as a reproach to someone. I often say to my patients and nurses, You see the care which I have exercised, and if you do likewise I feel confident nothing serious will happen. Should any septic condition supervene it will prove to me carelessness somewhere.

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* Read before the DETROIT ACADEMY OF MEDICINE.

I will briefly review my obstetric service because it affords a goodly number of cases quite uniformly treated. While we expect a very large per cent. of normal labors, yet I think I have been singularly fortunate in meeting few of the serious complications of the puerperal state.

In two hundred and seventy cases of labor I have had but one death and that from rupture of the uterus. I have not seen in my own service a case of puerperal eclampsia, although I have had a number in which albumin appeared in the urine. When this warning note was sounded I have watched my patient past the period at which the child was viable, and if anasarca was increasing, or symptoms of toxemia evident, in the interest of both mother and child I have induced labor, and from the five cases in which I have resorted to this means I have escaped with a mortality of one child. While I have had two breech and two occipito-posterior presentations I have met no unusual or difficult positions, and in no case a labor not terminated by forceps without great effort. In fact, I have called but one consultation in labor. One case of postpartum hemorrhage leaves behind a vivid recollection and most wholesome dread of the complication.

In each case the placenta has been delivered by CREDE's method immediately following a dose of ergot, and without difficulty. Perineums have given way without number to a greater or less degree and I plead guilty to not having immediately repaired as many as I ought in the first years of my work. I have put in sutures in twelve, with resulting union in ten.

In every case where possible I have insisted upon the strictest cleanliness of patient, bedding, and everything coming in contact with the patient. I have taken pains to educate my families as far as possible to a just conception of surgical cleanliness; what it is, and its importance in the safe conduct of the case; and while it may be a coincidence, I accept as a reward of this care a record free from a single case of puerperal fever. I notice that the New York Maternity Hospital reports sixteen hundred consecutive labors without a septic case.

I will now report in detail my case of uterine rupture.

At 1 o'clock A. M., I was called to attend Mrs. B., a strong German washerwoman, aged thirty-three years, in her seventh confinement. In her first five labors she had been unattended by a physician, but in the sixth on account of an uterine inertia a doctor had been called, who applied forceps and terminated labor. She made an uneventful recovery and her seventh pregnancy had been normal. When I reached her the os was dilated to the size of a silver dollar, the head occupied the normal position, the pelvis was roomy and the pains were regular and effective.

Giving a few directions, I stepped into an adjoining room. After a time they reported to me that the membranes had ruptured. I could hear the patient and soon noticed that she had ceased to make any disturbance. Stepping into the room I found her blanched and fainting and apparantly moribund. Having satisfied myself that she was not flowing, I put my hand upon the abdomen, and the walls being thin, I could distinctly feel the body of the child free in the peritoneal cavity. Recognizing the condition, and not having my forceps, I went, on my wheel, to my office, a half mile distant, and returning applied the instrument, by forcing the head into the pelvis with one hand while adjusting the forceps with the other. In this way I delivered a still child. The placenta followed and the uterus contracted.

On my first arrival the parts had been rendered fairly aseptic by soap and water, and I observed as nearly as possible under the circumstances antiseptic precautions in my manipulations. Under the influence of stimulants and heat to the extremities my patient, after a time, rallied from the shock.

The family influence and surroundings being unfavorable to an abdominal section, I satisfied myself by putting in drainage, an ice pack upon the abdomen, and keeping the parts antiseptic. I left things in *statu quo* until the forenoon, when she had all the symptoms of a septic peritonitis and died on the third day.

An autopsy revealed a longitudinal rent in the left lateral aspect of the uterus from the ring of Bandl to the cornua, blood in the abdomen, and a septic peritonitis. A microscopical examination of the uterus gave no reason for the accident.

Having in a previous labor suffered from an uterine inertia, there being no disproportion between the fetal head and the pelvis, the pains not being unusually strong, and the rent occurring in an unusual locality, led me to conclude that the uterine tissue had undergone degeneration, local or general. While the per cent. of recoveries is not large under the most favorable conditions for operation, yet it has always been a source of regret to me that I did not give the patient the only chance of life. The location of the rupture made drainage of little value and only amputation of the uterus could have been of possible avail.

In a conversation with Doctor Hitchcock this afternoon I was reminded of a case of puerperal cystitis which tended to make both patient and doctor fit subjects for a lunatic asylum. I attributed the condition to carelessness in the use of the catheter. Caution in this procedure was so severely impressed upon me that I shall not soon forget the lesson.

CALORIC: ITS UTILIZATION IN THERAPEUTICS.*

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In selecting this rather unusual subject for consideration and discussion, no new ideas are claimed, no hitherto unheard-of theories advanced. A desire to emphasize certain well-known truths, and to encourage more definite knowledge of some of the forces that govern matter, is all that is hoped for in this brief dissertation.

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*Read before the Wayne County Medical Society.

Life itself is a phenomenon, the result of an aggregation of forces. Each has a certain fixed intensity, and all bear definite relations to one another. To sustain and maintain this normal equilibrium is the claim and aim of modern scientific medicine.

The forces of nature exist continuously and for all time. Every living thing is thus influenced during its complete existence. It is only when there is a lack of harmony, an irregularity in the supply of natural forces, that the individual is affected.

We too often forget the wonderful inherent recuperative power of the human body, when subjected to the free influence of the natural laws and forces that regulate and control all matter, and that, while we are adjusting the most intricate piece of mechanism that ever fell from the hands of the Divine architect, we have at our command the utilization of the great forces that control its very existence.

Caloric, light and electricity—nature's mighty triumvirate—stand as willing slaves to do our bidding, or as cruel, exacting masters to destroy us.

It is well for the student of medicine to know the structure of the human body; to be most familiar and conversant with the birth, growth and development of that primary structural element of life—the cell. But of what consequence is it all if he fails to appreciate that this little cell—this wonder of the biological world—cannot of itself exist for a single instant. It is only when influenced, revivified, controlled perfectly by the great forces that come to it from nature's laboratory, that it exhibits the marvelous beauties that characterize the phenomena of life.

Pervading all nature, coexisting and consequent upon the normal exhibition of every physical law, there is a wonderful force known as caloric, characterized by two conditions which, however, are only relative. An excess above a certain normal intensity is called *heat*, an absence or deficiency, *cold*. In the human body, this *normal intensity* is placed at 98.5° Fahrenheit. Both of these conditions—*heat* and *cold*—exercise a most important function in nature's economy. Since their intensity is only relative, the existence of one implies the presence of the other.

A brief summary of the nature and therapeutic uses of heat, with a few ideas in regard to methods of use, is all that will be attempted here. From one of three different sources, all heat is derived.

(1) Physical source: as solar radiation, terrestrial heat, the molecular actions, the changes of condition and electricity.

(2) Chemical source: as molecular combinations—especially combustion.

(3) Mechanical source: friction, percussion and pressure.

A variety of theories has from time to time been advanced as to the *cause* or *nature* of *heat*. Only two, however, are of sufficient significance to merit mention.

By the first hypothesis, a subtle, imponderable fluid surrounds the molecules of bodies, possessed with the power of passing from one to the other. These heat atmospheres surrounding the molecules act as repellant forces against one another, thus opposing the force of cohesion. The entrance of this fluid into the body gives a sensation of *warmth*, its exit a sensation of *cold*.

The second theory, and that now recognized by distinguished writers and scientists, as affording a much more satisfactory explanation of the phenomena of heat, is, that it is the result of an oscillating, vibratory motion of the material particles constituting the body. The greater the velocity and amplitude of the vibrations, the greater the heat. This theory always presumes the presence of an imponderable elastic ether which pervades all space.

The first hypothesis makes heat an actual *substance;* the last, a *form* of *motion*, a *condition*.

In order that the normal functions of the human body be performed most perfectly, a certain degree of heat intensity must at all times be present. This is admirably maintained by providing a layer of partially cooled tissue between the outer air and the delicate organs within. The protective layer only exists by virtue of the contractile force exercised by the superficial vessels. A loss of this contractility—a vasomotor paralysis—and the protective layer is gone. The surface temperature soon equals that of the interior, and the temperature of the entire body falls.

This vasomotor paralysis always occurs when death is produced by freezing; in section of the spinal cord; in toxic doses of various drugs. In all conditions of collapse, whether following surgical procedures or not, this vasomotor palsy, this lack of contractility in the superficial vessels, is ever present. The normal intensity of heat is absent. Restore it, and all pathological conditions disappear. The lack of power in alcoholic stimulants at this time is peculiarly observable. The alcohol supplies no heat. The heat must be supplied artificially from some external source. As a subordinate auxiliary, physiologically we should stimulate the vasomotor centres and contract the arteriols. Atropine may be used for the purpose.

The late DOCTOR CHARLES HUNTER depended entirely on the application of heat to counteract that condition known to surgeons as "shock." Who, of us, that has not observed the almost life-giving effects of heat, especially the revivifying hot-water baths, in cases of stillborn children; of what advantage it is many times in the first few days of postfetal life. During the operation of laparotomy nothing will so soon adjust the irregular vital powers of the patient, who is hovering on the verge of collapse, as to flush the abdominal cavity with hot water. What a grateful, refreshing sedative is a glass of hot water to the weakened, debilitated stomach of one afflicted with any of the various forms of gastric indigestion. What amazing results may be expected in the treatment of all forms of chronic constitutional ailments by a judicious course of hot baths, such as are given at the numerous mineral spring resorts, Turkish and Russian bath-houses, et cetera. Unquestionably the results are due to the heat secured, not particularly to any medicinal power possessed by the water. To further illustrate the value of heat, kindly admit a report of a case of morphine poisoning that came under my observation some three years ago.

A vigorous, healthful young woman of nineteen, took an overdose of morphine. This occurred in the afternoon at 4 o'clock. An hour and a half later, a hasty summons reached the office. Arriving at the bedside, a hasty examination showed all the characteristic symptoms of an immense dose of the drug. A deep sleep, from which we were unable to arouse her, pulse slow, pupils contracted, respirations heavy and face suffused, were some of the objective conditions.

The most vigorous means for her resuscitation were at once instituted; hypodermic injections of atropine; strong coffee; flagellation. With the assistance of two strong men, she was supported and kept constantly in motion, although she was in a semicomatose state. In spite of all this, the toxic condition gradually increased. At 11 P. M. two additional physicians were called in consultation. A strong current from an electric battery was applied. The coma became absolute, the pulse feeble and at last imperceptible, the muscles relaxed. The respirations reached ten per minute, finally five, kept so for an hour, and then at 3 A. M., eleven hours from the time the poison was taken, as far as we could perceive, the respirations ceased entirely, and we believed her to be dead. At once, in sheer desperation, without any apparent reason why, someone suggested a plunge into the bath-tub filled with hot water. Happily, there was plenty of water at the right temperature. In three minutes, stripped naked, she was submerged in the almost boiling water. No thermometer was used to test the intensity of heat; we only wanted it hot enough. In two minutes after her submersion, like a great crimson wave, the red blood rushed to the surface of the body, flooding the arterioles, the vasomotor paralysis, so evidently present, magically and almost instantaneously disappeared. It seemed that the skin would burst with the intense arterial pressure. A couple of minutes later she moved voluntarily, opened her eyes, struggled under our grasp, spoke, and in probably six minutes from her first introduction to the hot water, she, in the full possession of her senses, walked to her bed.

This is unquestionably a somewhat remarkable case. Every detail, as has been described to you, can be fully corroborated by the two medical men who so nobly assisted in that, to us, memorable struggle.

The utilization of heat for the correction of conditions, indicated by a lack of caloric, is at all times most efficaciously performed by means of water. Why this is, and must necessarily be, true, has been shown by a series of experiments. Water has a greater specific heat than any other substance that could be utilized.

In the collapse of chloroform anesthesia, among other conditions, there is always a vasomotor paralysis. Why would not heat, applied as in the case of morphine poisoning here mentioned, be the most reasonable and physiologically scientific method of resuscitation?

VITAL STATISTICS OF NORWAY (1892) AND MICHIGAN COMPARED.*

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NATURALLY, for physicians, one of the points of leading interest in such a report is the presentation of causes of death, and the relative importance of various diseases as causes of death and of sickness. In order to facilitate comparisons with similar data for this country, the numbers of deaths, and percentages of deaths from each disease to total specified deaths, are given in the following table for Michigan for the same year:

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*"Beretning om Sundhedstilstanden og Medicinalforoldene i Norge i Aaret, 1892." Udgiven af Direktoren for det civile Medicinalvaesen, Kristiana, 1895.

"Twenty-Sixth Annual Registration Report of Michigan, for the Year 1892." Lansing, Secretary of State, 1894.

NOTE.—The use of the Norwegian report, for non-Norsespeaking persons, is facilitated by the *resume* in French, and by the subtitles, also in French, before all the tables. The clearness and convenience of the arrangement of the subjects make reference easy.

DEATHS FROM CERTAIN IMPORTANT DISEASES AND GROUPS OF DISEASES IN MICHIGAN AND NORWAY FOR THE YEAR 1892, WITH RATIOS TO THE TOTAL NUMBER OF DEATHS FROM SPECIFIED CAUSES.

CAUSES OF DEATH.	Michigan, 1892.		Norway, 1892.	
	Number.	Per cent.	Number.	Per cent.
Total specified diseases.*	17,578	100.0	20,649	100.0
Consumption	2,080	11.8	3,358	16.3
—Other tubercular diseases	208	1.2	834	4.0
Diphtheria	1,020	5.8	1,230	6.0
—Croup, croup memb.	291	1.7	138	.7
Typhoid fever	626	3.6	87	.4
Scarlet fever	442	2.5	215	1.0
Whooping-cough	147	.8	453	2.2
Measles	72	.4	334	1.6
Cancer	558	3.2	1,278	6.2
La grippe	907	5.2	717	3.5
Pneumonia	1,298	7.4	2,032	9.8
Bronchitis	184	1.1	1,628	7.9
Pleurisy	30	.2	113	.6
Heart diseases	961	5.5	773	3.7
Bright's disease	332	1.9	553	2.7
Old age	1,079	6.1	1,689	8.2

*Exclusive of stillbirths, deaths from violence, and from unknown causes.

Michigan and Norway have about the same population, that of the former being estimated at about 2,167,000 in 1892, while that of the latter was taken at 2,006,500 at the middle of the same year. Registration of deaths is very imperfect in Michigan, it being thought probable by the compiler of the "State Registration Report" that only about 60 per cent. of the deaths that actually occur in the State is properly returned. In Norway, however, while the total registration of deaths is much greater than in Michigan (35,769, or 17.8 per 1,000 population), the proportion of deaths returned with causes distinguished is only 60.2 per cent. of the total number. For this reason the numbers of deaths returned from each cause, and the proportional relations to deaths returned from all causes, are probably directly comparable—at least with little change on either side. In neither registration report can the rates of mortality from different diseases to population, or to the susceptible population, the most satisfactory expression of mortality, be given. Rates based upon the comparison of deaths from any cause with total deaths, are, as is well known, subject to many objections, and should not be made except in cases like the present where nothing better can be given.

Bearing these considerations in mind, we may note in a general way some of the differences in the rates in the two countries. Consumption causes about 50 per cent. more deaths in Norway than in Michigan, and other forms of tubercular disease, whether from more exact diagnosis or otherwise, are even more prevalent. Diphtheria was slightly more fatal in Norway in 1892, but adding also deaths from "croup," the disadvantage would be on the side of Michigan; whooping-cough and measles considerably more so; and pneumonia, bronchitis and pleurisy markedly more prevalent. Deaths from cancer and Bright's disease were more numerous in Norway than in Michigan, nearly double the percentage of Michigan being reported for cancer. On the other hand the deaths from typhoid fever, scarlet fever, and from diseases of the heart and circulatory system (not including "heart failure" in the Michigan statistics) were decidedly more numerous in Michigan.

Other features of interest are the interesting statistics of cases reported and deaths from infectious diseases, the very full statistics of obstetrical and surgical operations, et cetera. We note from the tables given relative to leprosy that there were 954 cases of leprosy in 1890, the smallest number since the statistics began in 1856, in which year the number reported was 2,833. The diminution has been regular and is probably still progressing. Out of 7,302 cases recorded from 1856 to 1890, 5,043 were of the tubercular, and 2,259 of the anesthetic variety.

A CASE OF PYONEPHROSIS CURED BY CATHETERIZATION OF THE KIDNEY AND WASHING OUT ITS PELVIS BY THE KELLY METHOD.

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My object in reporting this case is to encourage other general practitioners to employ Doctor Kelly's ingenious instruments and perfect themselves in the necessary technique involved in treating the kidneys by the method of this surgeon. I have heard the objection made that while this procedure might be very useful in the hands of an expert, like its originator, yet it is altogether too difficult for the general practitioner. It is my purpose to demonstrate that Doctor Kelly has so simplified the technique of cystoscopy that it and catheterization of the kidneys can be done by any country practitioner of ordinary skill. The true genius is recognized by the simplicity of his inventions, and when this test is applied Howard A. Kelly is found preeminent.

The instruments and technique have been described by Doctor Kelly in the "Twentieth Century Practice of Medicine," Volume I, and in numerous journal reports of society meetings. The complete set is rather expensive and is not required. My outfit consists of four cystoscopes, numbers eight, ten, twelve and fourteen; two drainage tubes; one long silver catheter; one ureteral searcher; a conical dilator; two whalebone bougies; two long silk catheters, numbers six and eight; and one urine evacuator. The beginner may dispense with numbers eight and ten cystoscopes, and the whalebone bougies are only employed preliminary to hysterectomy. The smaller cystoscopes are used more frequently by the expert, as they do not require preliminary dilatation of the urethra.

The cystoscopic examination is very easy for the beginner who has had any experience with the forehead mirror, but the location of the ureter is a more difficult matter and requires patience and perseverance. I attempted the procedure more than once before succeeding in locating the opening of the ureter, but finally did so, and after accomplishing the feat once have not since found it to be very difficult.

The only patient I have had in which catheterization of the kidney was indicated came to my office from a neighboring town, December 20, 1895. She had a temperature of 103°, a rapid pulse, and complained of great pain in the right side, where I discovered a large hard movable tumor. A diagnosis of appendicitis had been made by her attending physician, and operation had been advised. She had been sick with the symptoms above described for six weeks. I concluded from the location and appearance of the tumor that it was a movable and enlarged kidney, which opinion was confirmed by the discovery of pus in the urine.

I sent her to Mercy Hospital, and at my first leisure, two days later, with the assistance of Doctor O'Hara, catheterized the right kidney. In the meantime her temperature had continued high, it being 104¼°. on the evening of December 21. Upon passing the drainage tube into the ureter and withdrawing the cystoscope, a few drops of pus escaped from the tube. No further discharge taking place, suction was made on the tube with a syringe. In this way one drachm was obtained mixed with urine and containing numerous black particles which proved under the microscope to be uric acid. I then injected a considerable quantity of warm boracic acid solution into the tube. This was immediately discharged and with it a considerable quantity of pus, urine and gravel. The drainage tube being left in situ for an hour, a considerable discharge occurred, and the tumor in the right lumbar region was found to be much reduced in size, and the temperature speedily fell to normal. The patient being determined upon going home, the following day, December 23, we again catheterized the kidney, this time using the long silk catheter and passing it up to the pelvis of the kidney. When it reached the kidney a stream of pus and urine escaped until three ounces were obtained. In it there were many large black pieces of uric acid, some of them as large as the head of a pin. After washing out the pelvis of the kidney repeatedly with warm boracic acid solution I removed the catheter and that afternoon the patient returned to her home. I visited her there January 2, 1896, and succeeded in again catheterizing the right kidney, with the patient upon an ordinary bed, and with the light of a very poor kerosene lamp. The urine obtained upon this occasion was clear, free from pus and uric acid, and I considered it safe to pronounce the case cured.

My theory of the pathology of this case is that obstruction of the ureter was produced by the uric acid gravel; that suppuration of the pelvis of the kidney supervened; and that the gravel was all removed from the kidney by the irrigation, otherwise the urine would have contained pus and uric acid at the examination of January 2.

URETHRAL INJECTIONS: THEIR USE AND ABUSE.*

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Urethral injections can never be employed as placebos. They can do good or be the cause of great harm. They often are the cause of intense suffering and protracted sickness. To do good not only must the injection be indicated but its character and strength must be suited to the pathological conditions present. Unless it is known just what is desired to accomplish by injections it is better not to use them at all. To employ an injection when no pathological condition is present is always an abuse. If the gynecologist be asked how to prevent conception, his answer would be to the effect that that is none of his business. If one asks me how to avoid disease, my answer is, avoid sources of contagion. If then he asks whether antiseptic injections are a safeguard or not, he can be referred to the classical prescription of RICORD for obtaining urethritis, the last ingredient of which is the use of this very same antiseptic injection.

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* Read before the Detroit Medical and Library Association.

The reason for this lies in the well-known fact that a part irritated and congested is a much more likely habitat for disease producing germs than a normal mucous membrane. A child with nasopharyngeal catarrh will contract diphtheria when its playmate with healthy condition of nose and throat escapes. The virus of scarlatina finds ready entrance to the body through a tonsil denuded of its protective covering, and so irritation of the caput coli or appendix, from within or from without, as BYRON ROBINSON, in a recent article, attempts to show from contact with the psoas muscle, probably exists before the bacterium coli communis enters upon its dangerous work. It is well known that injections of pure water or a solution of corrosive sublimate, 1-40,000, will occasionally cure a urethritis. Therefore the use of an injection as a preventive of disease is an abuse and not to be countenanced.

In nonspecific inflammations of the urethra or bladder, if we can use the term, injections have their place. These diseases are more common in woman than in man on account of the readiness with which germs find access to the delicate parts. In such cases when pus is present in the urine, which together with the other symptoms show inflammation of the urethra or bladder, the younger physician in his great anxiety to do something will perhaps be led to employ the injection when his more experienced brother will probably cure the patient more quickly by means of the hot bath, opium, alkalies and diluents. Only in the more chronic cases should the douche be employed, and often then not until that king of remedies in catarrh of mucous membrane has been employed, namely, nitrate of silver. At present I have under treatment a patient who has had catarrh of the posterior urethra and bladder for more than a year. He was operated upon about that time for stricture, and has been miserable ever since, having to urinate very frequently. This man has improved very markedly during the last ten days although previously antiseptic douches seemed to do no good. Now he holds his urine the normal length of time and feels better than for a year. The treatment has been rest, bladder douches twice a day of boric acid solution, following which there is injected into the deep urethra thirty grains of loretin suspended in two drachms of olive oil. The drug loretin, or metaiodoorthooxyquinoline-anasulphonic acid, is a synthetical compound having no odor and put upon the market to take the place of iodoform. So far as employed I have been much pleased with its action. This case, as many cases of cystitis, has not been helped by antiseptic douches alone, more than by internal antiseptics.

But let us turn from simple urethritis, in the treatment of which we all in general agree, and in our discussion consider the place of injections in gonorrheal urethritis. There can be no question but that the routine practice of prescribing an injection with the ordinary syringe, to a patient with gonorrhea in any and all stages, is bad practice, and the prescriber evidently is not abreast with advanced methods.

The often-repeated saying of ULTZMANN—"absolutely no treatment in the first week"—while good advice as he intended it, is subject to modifications. Never, as a rule, do I employ injections during the first two weeks of the disease. I understand very well that many good men do, but after careful observation of numerous cases, both severe and light, I have never been able to convince myself that the disease has been in the least shortened or the patient been made more comfortable. At times I am convinced decided harm has been done not necessarily on account of the injection as such, but because no patient can use an injection with the judgment and skill necessary to make it at all effective for good. When I said, as a rule, it was said advisedly, for there are some exceptions. It is seldom that a case of gonorrheal urethritis comes to us until the disease germ is well implanted; but twice within the past year I have had the pleasure of seeing the patient within twenty-four or forty-eight hours after infection. In each case a slight mucous discharge was present. Gonococci were present. Such cases are rare but when seen prompt action will often be followed by results that give great satisfaction to one trying to alleviate suffering. In each of these two cases I first passed a soft catheter into the urethra about two inches, and attaching a douche bag, washed out the urethra thoroughly with a quart of bichloride of mercury solution, 1-40,000. Then, passing in a urethroscope large enough to keep the folds of the urethral wall distended, I saturated a cotton swab with a solution of argentum nitratis, ten to twenty grains to the ounce, and passed it down below the tube, which on being withdrawn I withdrew the swab with a rotary motion and again thoroughly douched out the urethra. Afterward, although hoping that the gonococci were all destroyed and the disease now a simple urethritis, nevertheless I douched out the urethra myself once a day for a week. These two cases were perfectly well in ten days. In one other case the attempt to abort was attempted but failed.

If a patient can be controlled so perfectly as to come to the office twice a day for a carefully and thoroughly given antiseptic douche, of say two quarts or more of a warm solution, it is possible that some good may be accomplished over and above what is attained by the often-repeated urinary douche from the bladder. This method is to me, however, so utterly irrational that I cannot be persuaded to employ it when other treatment is so much better. If such careful douching is irrational, how much greater folly is it to order the patient a syringe and a bottle of medicine? He is apt to spill most of the medicine on the floor, it not having entered the urethra at all. If not so, he does not distend it sufficiently to clean out all the folds of mucous membrane. Then, again, the urethra not thoroughly cleansed by passage of urine, pus is driven down, and posterior urethritis, with the severe symptoms often due to it, produced in a day or two after having begun use of the injection, instead of being delayed for two weeks or escaped entirely.

Thus it will be understood that ordinary injections in the acute stage of urethritis are an abuse and not to be used, and upon those advocating their employment rests the burden of proving any benefit in shortening the average duration of disease, of relieving discomfort, or preventing complications.

When, then, it might be asked, would I advise urethral injections in acute urethritis? It must first be borne in mind that ordinary injections do not go back of the bulbo-membranous junction of the urethra. An uncomplicated urethritis passes back of this junction. If the disease has not passed to the deep urethra when the patient passes water in two bottles the second portion is clear. When this condition prevails, and the acute stage, as noticed by the character of the discharge, is past, and there is day after day about the same condition of things, in other words, there is an indolent catarrh not tending to heal, then is the time for the ordinary clap syringe and one of the many astringent, stimulating injections. Here it is best to begin with a mild solution, gradually increasing its strength. To specify drugs and strength of solutions is not my province tonight, but to discuss principles. Another point as to the use of injections, where they are being given, every day the test of the urine in two bottles must be applied either by patient or physician, and if the second portion at any time becomes cloudy, showing the deep urethra diseased, injections of this sort must be immediately stopped. The reason being that the solution passing backward only to the bulbo-membranous junction does not reach the root of the trouble. Having cured the deep urethritis it will be a comparatively easy matter to complete the cure of the anterior trouble.

In the use of the syringe in the class of cases advised it is very necessary to have the syringe large enough so that one barrel of the solution will thoroughly distend and reach every part of the urethral mucous membrane. This is a point often forgotten I think in giving the patient his orders. Instead of the piston syringe, where not inconvenient, the astringent douche can be readily given by means of a hard rubber attachment to any form of douche bag. This nozzle has an inflow and an outflow not quite as large as inflow, and fits firmly into the meatus; by holding the bag at a proper height one can have perfect control over the amount of pressure and can thoroughly bathe the urethra.

Now, a few words as to the injection treatment of the deep urethra, which may be carried out in several ways. It is not necessary, I think, to reiterate the fact that just as soon as the two-glass test shows the deep urethra or bladder diseased that anterior injections must be stopped as they are worse than useless. Now, I desire to note an exception to this rule, and that is in those cases where the cut-off muscle or muscles of the membranous urethra are either so weak as to be very easily overcome, or where, as I have observed in a number of cases, the patient can by will and attention inhibit the action of this anterior sphincter so that contrary to the general rule one can fill the bladder easily from the meatus. In several such cases where posterior urethritis existed I have found great satisfaction in rapidly completing a cure by having the patient lie upon his back, hang the douche bag only a little above the level of his body, and fill the bladder once or twice with the solution selected and repeat the process twice a day for a few days.

When it is felt that there is needed a small injection of silver nitrate, for instance, into the deep urethra, the Ultzmann capillary syringe or its modification as made in this country is perfectly satisfactory. With it three or four drops of a five to forty grains to the ounce of nitrate of silver are placed at the sensitive point and repeated once in two or three days. Usually improvement will be noticed from visit to visit. I think one cannot satisfactorily treat chronic urethritis without this instrument.

There is one other method of making applications to the deep urethra and bladder which is harmless and effective, and that is by passing a catheter, rubber or metallic, made for the purpose into the bladder, drawing off the urine, then injecting through the instrument by means of a large syringe about six ounces, gradually withdrawing the catheter as we inject so that just as we have withdrawn the catheter about six ounces have been used. In this way the entire tract has been douched. The patient then gets up and empties his bladder. The solutions used in this way are not concentrated as are those used with the ULTZMANN syringe and may be used once a day.

In closing, then, let me say—(a) There can be no routine treatment of urethritis; (b) The old form of injections with the gonorrheal syringe plays a small part in the scientific treatment of urethritis; (c) So far as injections are used at all, both the kind of injections and strength of solutions employed must depend upon an accurate diagnosis of the conditions present.

TRANSACTIONS.

DETROIT MEDICAL AND LIBRARY ASSOCIATION.

STATED MEETING, DECEMBER 2, 1895.

THE PRESIDENT, ERNEST T. TAPPEY, M. D., IN THE CHAIR.
REPORTED BY WILLIS S. ANDERSON, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR DANIEL LAFERTE read a paper on "Talipes Valgus." (See page 103.)

DOCTOR MAASS: I have not had experience in the method described by DOCTOR LAFERTE. I have never used it myself, and the hospital that I was connected with never used it. Our method was to divide the tendons of the muscles subcutaneously, and the results were excellent. I think the best way is to take out a section of the malleolus. I am not certain but that in these cases experience will prove, in later years, that the foot may be too much in the valgus position.

DOCTOR LAFERTE: They claim not. PHELPS' method was very thoroughly discussed at the International Congress in Berlin.

DOCTOR TIBBALS: I simply wish to say that I would like to compliment the doctor on his very satisfactory paper. PHELPS' operation is the best and most satisfactory one that can be done. The method of subcutaneous operation is not always successful, and in poor people, as the doctor has said, the cost of an apparatus is an important factor.

DOCTOR BONNING: I would like to inquire about the case of an old person. Would the operation afford as good results as in the case of a child?

DOCTOR MACLEAN: I am very sorry indeed that I was unfortunately delayed, as I had made up my mind to hear DOCTOR LAFERTE's paper. I have just had the pleasure of seeing the patient, and feel justified in most heartily congratulating the doctor on having secured a very fine result. I have watched and studied the different methods, and the changes in methods of treating club-foot for many years, and am fully persuaded that in one way and another with our advanced ideas of pathology we have attained to a very great advance in this very important department of surgery. Of course we were all taught the importance of subcutaneous tenotomy of the tendons. We were taught that the most serious dangers adhered to the process of tenotomy unless it was subcutaneous. We now know better than that. In one way and another we have come to look upon it from a different standpoint, and treat it from a different standpoint. I personally have had a good deal to do with tenotomy for club-foot and for other conditions, and I must say that on the authority of my own experience I have abandoned the principles taught me in my youth. Instead of the old practices of subcutaneous tenotomy I believe—and I think this very case is a strong endorsement of my belief—that nowadays the principle is not nearly as sound a procedure as to cut right down, make an open wound, divide such tendons as you wish to divide, ignoring arteries and veins—which you can easily take care of if you divide them—and in that way, instead of poking along with little stabs in the dark, little uncertain punctures and piecemeal incisions, we go down with the confidence of the true anatomist, the true pathologist, and the true bacteriologist, guarding against infection by the well-known methods. Now, so far as I am concerned, I have practiced for some time a very different method of procedure from the old orthodox methods. When I have a case of club-foot to deal with I think the method employed by DOCTOR LAFERTE is the best. In looking back over quite a large number of club-feet cases operated upon by myself and by others by subcutaneous tenotomy, and remembering, as I do, with very great pleasure, satisfactory results in many cases, I do not know that I have ever seen one more absolutely and decidedly successful than the one we have just seen, and I think that now, with our knowledge of septic and antiseptic methods, we should have no hesitation in laying aside our old terrors and precautions and go boldly to work. I carried that theory out not long ago in a case of wry neck in which the child's head was away around toward the shoulder, the sterno-mastoid muscle strongly contracted, and I had some reason to suspect irritation of the vertebral joints causing a condition which division of the muscle would not correct. I proceeded by dividing the sterno-cleido-mastoid muscle, and in doing that operation, as I indicated with regard to club-foot, I departed absolutely from the old methods. I had been taught, and had seen a great many cases of subcutaneous division of the sterno-cleido-mastoid muscle for wry neck, and while I have never had any accident, nor any regret, as to the result of my operations in that way, yet I am free to admit that I have never performed a subcutaneous division of the sterno-mastoid muscle without a feeling of sinking at the heart. I shall never go back to the old method of subcutaneous tenotomy for any purpose whatever. I made an incision in the case above referred to on the clavicle at the point of attachment of the muscle, took a strabismus hook and fished up the muscle to the surface so that I could see it, taking it away from all the important structures at the neck entirely, and dividing it with a pair of scissors. Now, I hold that that is a very material and important advance in surgery. It is one perhaps of the latest and most valuable advances that have resulted from the aseptic methods of surgery. Twenty years ago a man who would make an open wound for division of the sterno-mastoid muscle for wry neck would have been considered an audacious and unsafe practitioner, and would have been liable to suit for malpractice; but now, with our advanced methods of keeping the wound thoroughly clean, the operation can be done much more certainly. There is one other point now with regard to club-foot, and I think it very important to call attention to it. I operated on a healthy little child recently for double club-foot —talipes equino-varus. I divided the tendo-ACHILLIS, the posterior tibial, the anterior tibial, and the plantar fascia, so that when the operation was completed the child's feet were perfectly straight—no tension anywhere—and you could take hold of the two little feet and put them in as good position as any child's could possibly be, but when the child was allowed to stand, his mother supporting it by the arms, it stood in such a way that while the heels were down the toes turned like the veriest kind of pigeon toe, and not only the foot but the knee and hip-joint inverted. I am sorry I did not have the opportunity of showing the child here. That is a common difficulty with cases of club-foot, and it results in this way. The portion of the nerve supply which is furnished to the external rotatory muscles is congenitally defective, so that the external rotatory muscles are too weak, and the internal rotatory muscles are too strong. In other words, there is a loss of proper balance between the external and internal rotatory muscles. There is a gentleman in Buffalo who has written a very interesting article, and exhibited an instrument called an "external rotatory splint," which is buckled around the knee and ankle, and it everts all these muscles so that the child stands perfectly straight. The club-foot is cured by tenotomy. Now, any instrument that can be buckled around the waist, the knee, and the ankle, and that will by virtue of a spring, which is part and parcel of the splint, evert the foot outward would accomplish the result.

DOCTOR LAFERTE: I was very much interested in DOCTOR MACLEAN's last remarks concerning toeing-in, and the apparatus that the Buffalo gentleman has invented. Of course all of us know that we have a set of external and a set of internal rotators, and that is a point that comes up in our relapses. Prior to five or six years ago, I know that in the majority of my own cases that went out of town, I would get a letter from the parents saying that the feet seemed straight when the child was sitting, but when standing its feet turned in, and unless an apparatus was put on we had a relapse of the trouble. I think I am pretty safe in saying that in this method of PHELPS' (such a one as we have performed on the boy I have exhibited here tonight) I do not believe that there is more than one case in ten that you will not be able to cure. As soon as we adopted this method in private practice and in the Children's Free Hospital we dispensed, in the majority of cases, with the use of club-foot shoes and splints. When there is a tendency to too much toeing-in in a case of this kind, if we have not divided the structures sufficiently in the first place, I coax the parents to let me perform a little further operation and break the parts up. Now, we put a pad opposite the incision, turning the toes out a great deal more than we wish to have them when the correction is made, but if there is any tendency at all to toeing-in I simply tack a little piece of sole leather about a quarter of an inch thick on the outer edge of the sole of the shoe so that it turns the toes out when the little patient begins to walk. With regard to DOCTOR BONNING's question in reference to this operation of PHELPS'—if it is adapted to old cases I do not hesitate to say (although I have never operated on cases above the age of twenty-two or twenty-four years) that it would be successful. If not the deformity could be corrected by taking a V-shaped piece of bone from the outer border of the foot.

Doctor Maclean: Before leaving the subject there is one thought that has suggested itself to my mind. **Doctor LaFerte**, in speaking of the dangers of tenotomy for club-foot, referred to the injury to important arteries such as the anterior tibial, the posterior tibial, et cetera. Now, I want to impress it as the result of my experience, that I do not believe any surgeon will always be able to escape injury to some of these important structures, and I, myself, have been worried in operating to see the distinct and unequivocal gush from the posterior tibial artery. I can remember one of the earliest cases I operated upon, in which, after ten days, my attention was called to a most beautiful pulsating and thrilling aneurism of the posterior tibial artery as the result of my operation. In that case I was foolish enough to feel called upon to cut down and tie the artery to cure the aneurism, and in other cases I have seen the artery spurt and have recognized the fact that this artery was cut. I want to say for the benefit of the younger members here that an aneurism of the posterior tibial or the anterior tibial artery produced by a puncture or partial division in the operation for club-foot is not worth thinking about. All you have to do is to apply a little local compress or put on a firm bandage and in the course of ten days or two weeks the aneurism will be gone and no harm will result from it. And so with the nerves. The very fact of the operation advocated by the doctor justifies this course.

STATED MEETING, DECEMBER 9, 1895.

The President, ERNEST T. TAPPEY, M. D., in the Chair.
Reported by WILLIS S. ANDERSON, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor Robbins read a paper on "Urethral Injections—Their Use and Abuse." (See page 113.)

Doctor Maass: I think it is a very good point not to use injections during the first eight days. The experience I had in treating this disease dates back some time ago when I was army surgeon in Germany. Persons coming to me who had the disease were kept in bed and no other form of treatment was given and they invariably got well.

Doctor Campbell: I wish to make just a few remarks, not because I know anything about the treatment of urethritis, as the last case I treated was when I was a student, and then I used the injections which the doctor commends. I wish to commend the doctor's paper on account of the detail with which he has treated the subject. He evidently has made a specialty of genito-urinary diseases and has made a success of it. Ophthalmologists are particularly interested in the disease, as it is a well-known fact that the gonococcus has one of its chief fields in the conjunctiva. Every time a case of gonorrheal ophthalmia comes to me I feel as if the person had not been warned of the danger present with him. I think it is the duty of physicians to call the attention of patients with gonorrheal urethritis to the fact that infection of the eyes is very liable to occur. I want to say, also, with regard to the remedies the doctor has recommended, namely, nitrate of silver and corrosive sublimate, that they are of the greatest value, and I would like to commend the strenghts which the doctor recommends, namely, corrosive sublimate 1–40,000 which is a comparatively weak solution, and from ten to twenty grains to the ounce of nitrate of silver.

I know that in our cases of the eye great danger is often done in using stronger solutions. I believe also that in cases of urethritis great harm can be done.

DOCTOR ROBBINS: I think DOCTOR MAASS' plan of treatment of perfect rest in bed is the ideal treatment if you can have it carried out.

REPORTS OF CASES.

DOCTOR FLINTERMANN: I would like to report a case of diphtheria which I have been treating with antitoxin, and I do it for the reason that the result was a very happy one in this instance. I was called a week ago last Thursday to see a boy eight years old. He had been helping to clean the school which he had been attending. In that school children had repeatedly become attacked with diphtheria, showing that the proper care had not been exercised to thoroughly clean these rooms. When I saw the child first it was very sick and had a very high temperature—about 103°. I made a very careful examination and the child complained of feeling sick at the stomach. Examination showed the submaxillary gland very much swollen, but I could not see anything to warrant me in making a diagnosis of diphtheria. On the next day, Friday, when I saw the child again I noticed a peculiarly foul and offensive odor from his mouth; his breathing was much interfered with. On the following day I succeeded in detecting on the posterior wall of the pharynx a large patch coming down from the nasal passage, gray looking, very thick and covering the whole posterior wall of the pharynx, but there was no deposit on the tonsils. I concluded that this child had been sick about two or three days, and thought of trying antitoxin; so the same afternoon I took along antitoxin of the second strength and made a hypodermic injection of one thousand units and repeated the same next day. The fever did not in any way come down after the first injection, but on Monday the day after the second injection I found that the symptoms had improved in some ways at least, that the odor was not so offensive and the breathing became easier, and that all the symptoms pointed to an improvement in the case. On Tuesday there was a very marked decrease in the temperature, and of all the symptoms, and so it continued. I could not detect that the disease had spread farther than I saw it when I made the examination previous to the application of the antitoxin. I made a careful examination of the urine every day after the injection, and I did not find any albumin in the urine, and neither did I find any albumin in the urine today. The boy at present is without any fever, looks very well, and there does not seem to be any danger that his case will be followed by any paralytic symptoms. In many cases of this disease treated by me in former years, in which the disease started in the nose and spread down the pharynx, they almost uniformly ran a slow course, and at the same time caused a severe sickness followed by nephritis, and often by diphtheritic paralysis. Now, the specimen of antitoxin which I used in this case was from the firm of PARKE, DAVIS & COMPANY, and its injection was not followed by any inflammation, only by an erythema which exists even today, but it is of no consequence as it causes no discomfort. It seems to me that all cases treated in this way, if we are called early, will afford very satisfactory results, and if reported will certainly add to the valuable statistics we have on record at the present time. What struck me in this case particularly is that the fever very soon subsided on the application of the remedy, and after the second injection an improvement in the symptoms were noted, no nephritis followed, nor did any other unusual symptoms.

Doctor Longyear: In this connection, as to the use of antitoxin in the treatment of diphtheria, I think it may be of interest and of value for me to report some experience I have just had with that remedy in a very unusual case. A short time ago there appeared at the Woman's Hospital puerperal fever, in a case which was rapidly followed by two more. We only had these three women in the hospital at that time who had recently been confined. They had chill, high fever with some membranous deposit in the vagina at points where there had been slight abrasions, with bad smelling discharge. They were immediately isolated (as we do there now in every case where the temperature and other symptoms indicate any symptoms of infection), and antiseptic treatment was instituted of the most thorough kind. The first patient, I would say, was one who had come in in labor and the progress of labor, was so urgent that it was not possible to subject her to the usual process of antiseptic cleansing which we usually do in all cases that come in. She was the first one to be taken ill, the second one the next day, and the third the day following that. The third died on the fourth day with immediately preceding symptoms of peritonitis. The one who was taken ill second died the second day afterward with exactly the same symptoms. We held a postmortem on the first case and had a bacteriological examination made. The specimen was sent to Harper Hospital, a quick examination made without culture and they stated that they found a bacillus looking like that of diphtheria. The one who was first taken ill being still alive it was decided to give her the benefit of the doubt and try the efficacy of antitoxin. We injected an entire bottle of the one thousand units specimen that evening and the next forenoon another bottle. There was no amelioration of the symptoms until after the second bottle had been administered. The temperature remained up that night but next day it went down to normal. The next day it went up a little, but the following day it decreased to normal and remained there. This patient had begun to have the very same symptoms of peritonitis—diarrhea, tympanites and pain in the abdomen—precisely similar to those the others had immediately preceding their death. Today that patient is well and about to return home. Now, it seems to me that we cannot attribute that cure to anything else but the use of antitoxin, and also that it is of very great importance in these cases to ascertain, if we can, what kind of inflammation, infection or microbe that is affecting them, for there is no doubt that puerperal fever infection may be the result of a variety of causes, each doubtless being amenable to special treatment. In this connection I would call your attention to the fact that the Board of Health has recently adopted a means of furnishing antitoxin to the poor patients of physicians when they are unable to pay for it, so that any of you who have patients who are unable to pay for antitoxin can obtain it of the Board of Health. The physician must call personally, giving a history of the case and the circumstances of the family, and must also return a written report of the case to the Board for record.

Doctor Hitchcock: I would like to inquire of Doctor Longyear if any of the children in the hospital were affected with diphtheria?

Doctor Longyear: No; we did not at that time have a case of illness of any kind in the house, and had not had a case of puerperal fever for a long time. We have only had one case in the house in over two years.

Doctor Robbins mentioned it as unique that within six weeks he had had four cases of downward dislocation of the humerus, all easily reduced and recovering promptly.

DETROIT ACADEMY OF MEDICINE.

STATED MEETING, DECEMBER 10, 1895.

The President, W. R. CHITTICK, M. D., in the Chair.
Reported by C. W. HITCHCOCK, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor W. H. Sawyer, of Hillsdale, Michigan, read a paper entitled "A Brief Review of Two Hundred and Seventy Cases of Labor." (See page 105.)

Doctor H. A. Cleland: The paper is certainly a very lucid and interesting one, and the methods and success all that could be desired. Until late years I have had a large obstetrical experience. In the early days of my practice, we were not so impressed with the importance of aseptic methods and the class of patients did not always contribute to aseptic conditions. My record since 1864 is about 1790 cases. We used to find frequent cases of puerperal fever and this was largely spread by midwives. I once had at one time seven cases on hand, five of them being patients of midwives. **Doctor Stebbins**, then in active practice, had even a worse experience. I believe he once had five or six deaths from puerperal fever in one month. I have always tried to be careful and cleanly in person and instruments; but I think there are waves of epidemic.

Doctor W. P. Manton: I am sure we are all obliged to **Doctor Sawyer** for coming up here to entertain us, and I was much pleased with what the doctor had to say concerning lacerations of the perineum, which are in many cases absolutely unavoidable. Their early repair is, of course, to be insisted upon. While the doctor will understand that I do not speak in a critical way, I may say that the necessity of reporting a fatal case of rupture of the uterus might have been obviated, had he used what he had at hand. Sterilizing a scalpel or jackknife, thread, knitting needles, et cetera, he might have made a laparotomy then and there, passing knitting needles through the cervix, passing strong cord about them, and amputating. A prompt amputation and strong ligature to the stump would, I think, have saved this case. The number of occipito-posterior cases out of the 270 is very interesting. I have seen several cases in rather elderly females and in a large per cent. lacerations have occurred.

Doctor Robbins: I should be happy, could I report, in my small number of cases, such a degree of success. I have had one death in Detroit from puerperal fever, a patient confined at the eighth month, having had previous pains, who had a slow but normal labor, save that the placenta was adherent. I passed my hand into the uterus, used placental forceps, scraped off all I could; but it was astonishing how little could be removed. The patient developed fever and died. I agree with **Doctor Manton** as to lacerations of the perineum. If we do not find them, it is because we do not look for them.

Doctor Russel: I recall cases as far back as 1838, when I had three deaths within thirty-six hours, the most virulent cases of puerperal fever I ever saw. After that, I would not attend obstetrical cases at such short intervals. We often saw sporadic cases of puerperal fever. My own midwifery cases number above 3,000. I have had good success but some deaths. I never had a death from puerperal convulsions. I have had as many as thirteen confinements in one family; ten in that of one of my sons. I think chloroform and lack of patience responsible for many lacerations. I have waited in patience one, two, and even three days. I am glad I came to hear the paper.

Doctor Sprague: I do not like to hear lacerations of the perineum charged to chloroform, as I believe it rather a preventive of such accidents. I must admit that I have had very few cases in which there was no rupture. I think both forceps and chloroform have aided me in preventing lacerations of the perineum. In my case of ruptured uterus, pains were feeble, walls weak, and we had no intimation of such a thing until just before the patient died. We were working vigorously to resuscitate the child and the patient had been comfortable for half an hour, then commenced to have pain, then grew faint, and heart stimulants failed to prevent a fatal issue.

Doctor Hitchcock: I can testify, from experience, how annoying may be a puerperal cystitis, in spite of all sorts of antiseptic precautions. I feel impressed with the terrible stress, in which a man finds himself, when, alone and unaided, he is confronted with such conditions as embarrassed the doctor in his case of ruptured uterus.

Doctor Sawyer: I give to my patients, who engage me to attend them, a printed card containing simple directions (but bearing no name). These directions, although simple, are very helpful in that the patient is then ready for me, when I am called to her, and they also serve to educate the community, as they are often passed around, and I have given them to some of my brother practitioners. My experience is like that of **Doctor Manton** as to occipito-posterior cases; the rupture in each case was deep. Now, I always promptly repair. Many, perhaps, will not agree with my radical views as to albuminuria. I have felt it almost criminal to let my patients go to full term with albumin in the urine.

Doctor Cleland: I think mischief may be, and often is, done by surgical interference in cases of slight laceration. I have seen much danger and needless suffering incurred from surgical procedure. I recall a case in which, from the nervous and exhausted condition of the patient, I did not dare apply sutures and the rupture repaired entirely by nature's unaided efforts. I do not use douches if the lochial discharge is normal.

EXHIBITION OF INSTRUMENT AND PATHOLOGICAL SPECIMEN.

Doctor Manton exhibited an instrument devised by him for packing the uterine cavity; also a specimen of uterine fibroid, which had been discovered only about a month prior to operation, the history of which served to illustrate what annoying symptoms are due to some small growths, which may be absent in the presence of growths even much larger.

REPORT OF CASES.

Doctor Cleland reported an interesting case of diffuse peritonitis, in which the initial symptoms were suspicious of appendicitis; but which had early developed into a diffuse peritonitis and which had been successfully operated upon by **DOCTOR H. O. WALKER**, who had been called in consultation, a successful operation being rare in diffuse peritonitis.

EDITORIAL ARTICLES.

THE ROENTGEN RAYS.

THE discovery of the invisible light, or the X rays, or by whatever infelicitious term this phenomenon shall be known, has rekindled enthusiasms which used to be felt in days when science first assumed its attitude of supreme dictator in the thoughts and beliefs of mankind. To retain its ascendency over the imagination, science has to show its inexhaustibility, and while the last two decades have been full of discoveries, men's minds were beginning to be unsatisfied, feeling that too little of the unknown remained unknown, or that too much of known was not worth knowing.

So just at the time that men were ceasing to be thrilled by the discovery of a new metal or a new star, comes news from the invisible. While science had been infinite in its divagations, men had inwardly been convinced that her latter discoveries were the outcome of past inspirations. They felt that chemistry, after all, rested upon **DALTON'S** laws; that **NEWTON** had reached the ultimate law of the universe; and that **DARWIN** had included in his fertilizing generalization the beginning and end of biology. Science was losing its influence, because it was becoming too well known. It was like **COLERIDGE'S** belief in ghosts—"he had seen too many to believe in them." Science had lost sight of principles, and was merely concerning itself with details and adaptations. In possessing all things it lost sight of the far higher duty of having nothing, and of keeping its votaries in a state of divine hunger. It is, after all, only in the loftiest results of science and in its insight into law, that the mind must look for its highest satisfaction, and if it had not been for the **ROENTGEN** rays, the currency question, or some other mundane abstrusity might have assumed the proportions and dignity of a cosmic problem.

The value of such a discovery as this of **PROFESSOR ROENTGEN'S** is in no wise to be estimated by the concrete advantages it may confer to medicine. The discovery, by the invisible light, of kidney calculi or encysted bullets, is not to be compared in value to the renewed faith it will inspire in the invisible and the intangible. A new physics may be demanded to account for phenomena dependent upon longitudinal ether-waves, and speculation long repressed will find a legitimate field of exercise at the ultra-violet end of the spectrum.

It cannot be doubted that the discovery of this new photography is destined to be of immense value to medicine and surgery, but greater even than these will be the renewed faith to be awakened in the possibilities of new laws of universal significance. Science may win our approbation in laboriously adjusting means to ends, but when she indicates her unrevealed mysteries she offers the highest inducements to mental satisfaction.

ANNOTATIONS.

THE LATE DOCTOR NOYES.

By the death of Doctor James F. Noyes, a familiar figure to all practitioners of medicine in Michigan passes away. While in active practice and for some time after he had retired, Doctor Noyes was seen at nearly every medical gathering. Had he lived a little time longer he would have been able to participate in the opening ceremonies of Noyes Hall, which his munificence is providing for the enjoyment and amusement of the inmates of the Oak Grove Sanitarium at Flint. The memory of Doctor Noyes will keep green in the hearts of his many admirers both inside and outside the profession.

EMERGENCY RATIONS.

Various experiments are now being made with a view of determining the most condensed and concentrated ration to be used in emergencies. The Australian soldier so far seems to have the most portable ration. It weighs but a pound and a half and consists of compressed biscuit, preserved meat and soup, salt and tobacco. In England they have a compressed vegetable preparation to be used with Chicago compressed beef. In France a compressed vegetable preparation with peptonized meat is used. Experiments are now being conducted at Washington which will probably lead to an ideal ration being compounded.

THE AGE OF MEN AND WOMEN.

Woman has a greater longevity than man. This is not due to any particular virtue on her part, or the want of it on the part of the man. The greater exposure of men to accidents, to weather agencies, to the strain of business, and so forth, shorten men's lives. The deaths from accidents are three times greater among men than women, and suicide is also about three times greater. These unfortunate occurrences lower the death ratio, and make men less approximately immortal than their sisters.

THE PHYSICIAN AND THE BOND ISSUE.

When an office boy is permitted to make thirty thousand dollars by making an unsupported tender for bonds, there would seem no good reason why the bid of a Michigan doctor for twenty millions should be thrown out as bogus. It is somewhat in doubt just who the individual is that offered to take this little parcel of bonds, but there are several physicians in the state to whom twenty millions are as easy to raise for one as for the other.

CONTEMPORARY.

OBLIGATIONS TO THE MEDICAL PROFESSION.

[THE CINCINNATI LANCET-CLINIC.]

The national government has two sources of revenue—one through direct taxation, and known as internal revenue; the other as indirect taxation, and properly referred to as the tariff. Both are made use of, and are necessary for the conduct and support of the nation's government.

The conduct of a medical journal is quite similar in its revenue resources. The subscription price paid by physicians is the direct tax paid by them for information pertaining to the current events which are transpiring that are of special interest to them as practitioners of medicine. This subscription price is very small in amount—so small, in fact, that it is easily borne by all who are engaged in active work. Fortunately, a long subscription list justifies this low rate; and yet, in order that the journal may furnish a reasonable remuneration to its publisher, he must look to an indirect tax or tariff income derived from the advertising pages.

For this reason physicians should preferably purchase their supplies from firms who recognize their obligations to the medical profession in the way of a liberal response to solicitations for patronage of the advertising pages of the journals of their preference. Physicians cannot know of the improvements that are made in pharmacy and other channels other than through the advertising pages of their journals. Circulars do not bear the stamp of responsibility, and carry with them more or less of the odor and ways of the quack nostrum vendor.

There are firms which never contribute a dollar towards a legitimate sustentation of the medical press. Such firms do not deserve any favorable consideration whatever from medical men; they are tariff or tax shirkers, who should be classified with the men who are wanderers on the face of the earth, without homes and without a country.

OCCULIST-OPTICIANS.

[THE PHILADELPHIA POLYCLINIC.]

THE great prevalence of errors of refraction in the human eye and the modern recognition of the important relation they sustain to weak eyes, defective vision, headache and certain reflex phenomena affecting the general nervous system, has served not only to attract many physicians into the special field of ophthalmic practice, but has made possible a lucrative business for large numbers of skilled opticians, whose special function it is to prepare correcting glasses in conformity with the more or less elaborate mathematic formulæ written by the ophthalmic surgeon. Great good has resulted to the community in the relief of pain and weak eyes, and in affording increased efficiency for work in all pursuits requiring accurate vision.

It is cause for serious regret, however, that the increasing demand for correcting glasses has excited the cupidity of a horde of persons who are always to be found hanging on by the fringe of professional life, but thoroughly imbued with the spirit of the charlatan. As, in the field of general medicine, men of this class turn their attention to irregular practice or to the manufacture of nostrums and proprietary drugs with secret formulæ, so, in ophthalmology, without other consideration than the hope of financial gain, they have turned their attention to the furnishing of spectacles to the multitude. Unfortunately a great impetus was given to this evil through the efforts of several large optical firms by whom the pernicious seed was sown broadcast throughout the country, and has borne fruit in the formation of innumerable "optical schools" whence emanate, after a six-weeks' course of instruction, large numbers of so-called "oculist-opticians," duly supplied with the diploma of the school, a box of trial glasses, a table of test letters, an astigmatic chart, and such other paraphernalia as they can be induced to purchase. With rare exceptions, these "graduates" are without medical training, have the merest outline knowledge of the gross anatomy of the eye, and have no understanding of the physiology of vision, while the rudimentary instruction in optics which they have received gives them no adequate knowledge of the properties of lenses. They return to their homes, establish themselves in some jeweler's store, and, by glaring advertisements of "examinations free," attract large numbers of persons, with uncomfortable or painful eyes, into their warily-spread net. It is needless to say that these emerge with a pair of glasses. Such is the inevitable result; it matters not whether the discomfort complained of is the result of eye strain, or of a pathological lesion. Every ophthamic surgeon is frequently called upon, not only to remove from his patients concave glasses when convex ones were required, or the weakest spherical lenses, for which an exorbitant price had been paid, when compound glasses were needed to correct an existing astigmatism. But, even worse than this; many persons, suffering from progressing pathological changes affecting the intraocular membranes, have pinned their faith to the "oculist-optician," receiving frequent changes in their glasses until irreparable damage has been done by the advancing disease.

We have seen many cases of choroiditis thus unfortunately placed, and can recall two cases of patients with optic neuritis and headache, both of whom had received at the hands of the same "oculist-optician" successive pairs of glasses, until the stage of atrophy, with the narrowing field, and progressive loss of vision drove them to seek professional aid. Both cases eventuated in total loss of sight. While this might have been the result, in spite of professional advice, nevertheless the only time during which treatment could have been availing, was wasted under the fraudulent advice of an uneducated charlatan. It may be said that he was honest in his endeavor to relieve by glasses; but nevertheless his ignorance was, under the circumstances, a crime. The frequent and intimate association of ocular affections with general disease, and the fact that the symptoms simulate so closely those which grow out of the need for correction of some optical defect, is sufficient reason for giving to the furnishing of glasses the same legal status which obtains in the prescribing of drugs. No one, not legally entitled to practice medicine by virtue of his attested medical training, should be permitted to enter this field of physiologic optics.

MEDICAL NEWS.

DOCTOR CORNELIUS G. COMEGYS' DEMISE.

THIS prominent physician died of influenza at his home in Cincinnati on February 10. Doctor Comegys was born at Cherburg, the parental mansion, Kent county, Delaware on July 23, 1816. He was the lineal descendant of a German-Holland family that settled in Maryland in 1660, and his father was Governor of Delaware in 1839–1840. The doctor graduated from the University of Pennsylvania in 1848. Four years later he became professor of anatomy in the Cincinnati College of Medicine and Surgery, but afterward resigned the position to assist in founding the Miami Medical College, the advent of which marked his accession to the chair of the Institutes of Medicine. He continued in this capacity after the consolidation of the school with the Ohio Medical College, resigning in 1860. In 1864 he was again made a member of the faculty, this time elaborating his title by adding to the former professorship the chair of Clinical Medicine. In 1868 ill-health compelled the abandonment of college teaching. For nearly half a century Doctor Comegys has been a leading figure in the profession of the Ohio valley, and was instrumental in founding the Cincinnati Academy of Medicine, to the presidency of which he was twice elected. He was an active member of various medical societies, and it is believed that he was the first member of the American Medical Association to conceive the idea of establishing a weekly medical journal by that body. He was the originator of the resolution petitioning congress to create a National Board of Health, the affairs of which should be administered by a medical cabinet officer, and succeeded in having it adopted by the American Medical Association four years ago. It is said that he was more closely identified with the material public interests of Cincinnati than any physician since the death of Doctor Daniel Drake. In 1839 Doctor Comegys was united in marriage to the daughter of Governor Tiffin, and two daughters and three sons survive the loss of loving parents, the mother having preceded the doctor across the dark river a few months ago.

A NEW HEALTH BILL FOR SOUTH CAROLINA.

THE legislators are dabbling with the health law in South Carolina. A bill contemplating reorganization of the State Board of Health has been introduced in the general assembly. It provides for two additional members to the executive committee, the chairmen of the medical committees of the senate and house to constitute the acquisition. The county health boards are to consist of five reputable physicians in each county, and they are to be appointed by the county medical societies or by the governor. The township boards shall consist of a president and two other members, preferably physicians. It is further provided that these boards shall superintend the collection of vital statistics, institute prophylaxis against contagious diseases, and enforce all statutory enactments pertaining to sanitary science.

AN INVENTORY OF A SCIENTIST.

PROFESSOR WILLIAM CROOKES, the inventor of the vacuum tubes which rendered possible the recent discovery of the wonderful power of the cathode rays, was born in London in 1832. He evinced great interest in original research, and dabbled in photography early in his career. While still a youth he graduated from the Royal College of Chemistry, and soon afterward was elevated to the senior assistantship of his instructor. When seventeen years of age he won the Ashburton scholarship, and five years later marked his accession to thes uperintendency of the meteorological department of the Radcliffe Observatory at Oxford. He discovered thallium in 1861, and this contribution to science received the acknowledgment of the Royal Society in his election to fellowship. He greatly facilitated mining by suggesting the employment of sodium amalgam in the extraction of gold, and at a later date recommended the alternating electric current in conjunction with mercuric cyanide as a means for separating gold from highly refractory ores. In 1872 he invented the vacuum balance, and five years thereafter achieved the merited distinction of being elected to membership in the Royal Society for his invention of the otheoscope. The pressure in this vacuum registered only 0.4 millionth of an atmosphere, and consequently a favorable condition obtained for converting gases into an ultragaseous state. He has been connected with two scientific publications, having founded *The Chemical News* in 1859, and half a decade later assuming the editorial duties of *The Quarterly Journal of Science.* He is the personification of a natural genius and a persistent worker.

REGARDING THE PERSONALITY OF ROENTGEN.

Professor William Conrad Roentgen, who has recently achieved universal fame through his marvellous discovery of skiagraphy, or X-rays, is of Dutch origin. He pursued a course of study at Zurich, and afterward became assistant to the well-known scientist, Kundt. These two coworkers left Zurich to occupy positions at Wurzburg, and later were engaged in teaching at Strasburg. But Roentgen's ambition had not yet been satisfied, and he took advantage of an opportunity to advance by accepting the chair of mathematics at the Agricultural College of Hohenheim. He remained at this institution four years, resigning in 1879 to assume the responsibility of a professorship in the University Institute of Physics at Giessen. In 1888 he again became a teacher at Wurzburg, where he is now engaged. He has given considerable attention to electrical research, being especially assiduous in studying the figures produced in dust by electrical discharges, and the phenomena displayed by electricity in passing through gases. His recent discovery in the electrical domain, however, was the result of mere chance. While experimenting with a Crookes vacuum tube through which a strong current was passing, but which was covered by a cloth, his hand was accidentally interposed between the occluded tube and a piece of sensitized photographic paper. Unable to account for the lines which appeared upon the paper he began casting about for the cause, and soon found that they were a reproduction of the bones of his hand. He is the inventor of an aneroid barometer for determining the weight of the atmosphere, and has written several books on scientific subjects.

THE OHIO MEDICAL PRACTICE ACT.

The Mosgrove–Kimmel bill, providing for the regulation of the practice of medicine by the establishment of a State Board of Medical Registration and Examination, has passed both branches of the legislature. The act specifies that the board shall consist of seven members who are to be appointed by the Governor from the several schools of practice in proportion to their numerical strength, but no school is to be accorded a majority of the examiners. The law affects three classes of practitioners. (1) Graduates of medical colleges, recognized by the board are eligible to become licentiates upon presentation of diploma for verification. (2) Nongraduates of medical colleges, but legal practitioners under the laws of Ohio at the time of this enactment, may continue their vocation upon satisfying the board, by a duly attested affidavit, that they were legally engaged in practice before the passage of the present law. (3) Nongraduates of reputable medical colleges who have been plying the healing art, and who were illegal practitioners under the laws heretofore in vogue, are required to submit to a satisfactory examination, after which a certificate will be granted entitling the holder to practice for one year from the date thereof. The fee for an examination is twenty-five dollars, and it will not be returned to applicants from the latter class in case of failure. Ninety days are allowed for compliance with the terms of the law. Midwives engaged in practice prior to the passage of this act are required to file with the probate judge of their respective counties a duly attested affidavit setting forth their qualifications and procure from this functionary a certificate entitling them to pursue the vocation of midwifery. The fee is fixed at five dollars. Midwives henceforth desiring to enter practice in Ohio must submit to such examination as the board shall require. The fee exacted is ten dollars. The certificates of physicians and midwives may be revoked for cause. Noncompliance with the law is punishable by fine or imprisonment, or both.

THE PASSING OF A PIONEER OPHTHALMOLOGIST.

Doctor James Fanning Noyes, a former resident of Detroit, died of heart disease at Providence, Rhode Island, on February 17, aged seventy-eight years. Deceased was one of the pioneer ophthalmologists of the Northwest, having settled in Detroit in 1863, and for nearly a quarter of a century was closely identified with the interests of the profession in Michigan. He was born in South Kingstown, Rhode Island, on August 2, 1817, and commenced the study of medicine in 1842 at Waterville, Maine, where he inaugurated his professional career a few years later. His first course of lectures was taken at Harvard University, but he graduated from Jefferson Medical College. He relinquished practice after four years on account of failing health, and spent considerable time in travel and investigation during which he visited Detroit and pursued a course of study in Europe. In 1856 he returned to Waterville and entered upon a lucrative practice. But he had a strong desire to locate in the West, and after again visiting Europe, and devoting more than a year to special study, he opened an office in Detroit, where he later became professor of ophthalmology in the Detroit Medical College. He was an active member of various medical and other societies, and a generous contributor to medical literature.

THE SINGULAR WILL OF A WOMAN PHYSICIAN.

Doctor Anna E. P. Marsh, a homeopathic physician of Greeley, Colorado, recently died of paralysis, aged sixty years. Some time ago she executed a will bequeathing her dead body to the homeopathic department of the University of Michigan to be dissected by students for the edification of science, and providing that her skeleton be articulated and the debris incinerated. She left her real and personal property to the University of Michigan, reserving only her residence in Greeley. Her possessions included lands, notes and other valuables, which had accrued from practice. Soon after signing the document she reconsidered the clause disposing of her remains, owing to the distance and expense involved in transportation to Ann Arbor, and decided to bequeath her cadaver to the homeopathic department of the University of Colorado, instructing her husband to consummate the testament. Doctor Marsh's maiden name was Eastman.

She received her medical degree at the University of Michigan in 1879, and immediately settled in Colorado, marrying Doctor Marsh, a homeopathic physician, one year later. She graduated from the Ann Arbor High School in 1860, and subsequently taught eight years in the schools of Detroit, and about nine years in the High School at Ann Arbor, and doubtless some of the readers of The Physician and Surgeon will recall having been her pupil in one of these cities, the latter of which was her home for over twenty years.

THE CONTRACT SYSTEM OF MEDICAL SERVICE.

The Cincinnati Academy of Medicine has declared in opposition to the pernicious tendency toward the contract system of medical service. At a recent meeting the special order of business involved the adoption of the following preambles and resolution:

Whereas, The widespread tendency among the laity to form lodges, clubs and societies for the chief purpose of securing medical services at a nominal cost has so degraded professional work that physicians enter into contract with these societies and organizations to treat not only the members thereof, but also their wives and families, at a ridiculously low yearly salary; and

Whereas, As a direct consequence of this system of society contract medical service, there has resulted a degradation of the profession and a loss of its dignity in the eyes of the laity, therefore be it

Resolved, That all members of the Academy of Medicine of Cincinnati in good standing be requested not to enter into verbal or written contract or agreement with any lodge, club, society or organization to render professional service to the members of such lodge, society or club, or to the wives and families of the members thereof.

A PHYSICIAN PARLIAMENTARIAN.

John Dillon, the new leader of the Irish Parliamentary Party, is a qualified physician and surgeon. He was born in 1851 and received his literary training at the Catholic University of Dublin, afterward graduating from the Royal College of Surgeons of Ireland. He inherited rare oratorical powers from his father, and imbued with the spirit of liberty early became a notable figure in the political arena, representing Tipperary in parliament in 1880. He sat for East Mayo in 1885, and was reelected in 1892. He is a great lover of books, and his private library embraces many valuable and rare volumes. It is said that as a speaker the party contains no superior, although constancy, steadiness and readiness are characteristics more distinguishable among certain of his colleagues.

MINOR INTELLIGENCE.

Yellow fever is prevalent in Cuba.

Boise, Idaho, has a new city laboratory.

German measles is prevalent in New York City.

The Imperial University of Japan has 175 medical students.

The Seventeenth Balneological Congress convened in Berlin, March 5 to 10.

An English pharmacist has prepared an antisyphilitic serum.

An epidemic of influenza has been prevailing in Philadelphia.

The Ohio Medical College has affiliated with the University of Cincinnati.

Klemperer announces that urea is an efficient diuretic in cirrhosis of the liver.

The senate of South Carolina is asked to legislate against ophthalmia neonatorum.

Mr. John Chippendale, an English surgeon, recently died in London, aged ninety-one years.

A bill prohibiting the erection of tall buildings has been introduced into the legislature of New York.

The straw plaiter's disease is a new occupation-ailment. It is characterized by cramps in the fingers.

Doctor Conan Doyle is accused of writing a very interesting story for a quack medicine pamphlet.

The Massachusetts General Hospital has been enriched $20,000 by the bequest of Martin Brimmer.

California has five large asylums for the insane and forty-five hundred patients are domiciled therein.

The medical department of the Vanderbilt University now occupies a new building erected at a cost of $70,000.

English women of fashion now smoke cigarettes made of tea. Many nervous maladies are attributed to their use.

The University of Odessa is to have a medical school. The city has voted half a million dollars for the purpose.

The average weight of the human brain is about fourteen hundred grams, and that of the spinal cord thirty-three grams.

"A Bill for the Prevention of Cruelty to Animals in the District of Columbia" has been introduced into both branches of congress.

The American Microscopical Society will convene in nineteenth annual session at Pittsburgh, Pennsylvania, August 18–21, 1896.

Laryngological specialists practicing in the west will meet at Kansas City, on April 7, for the purpose of founding a laryngological society.

Baldness exists in the medical profession to a greater extent than in any other. Thirty per cent. of physicians are afflicted with alopecia.

The International Periodical Congress of Gynecology and Obstetrics will convene in Geneva, Switzerland, during the first week in September.

As a consequence of defective eyesight, bad teeth, or flat feet 15,000 out of 50,000 applicants for entrance to the British army were rejected last year.

The fluid extract of passion flowers is advanced as a sedative. Its administration in five to ten drops is recommended in tetanus and spasmodic disorders.

The next meeting of the American Medical Association will take place in Atlanta, Georgia, May 5–8.

The Hospital of the Protestant Episcopal Church of Philadelphia has been enriched $3,000,000 by the will of Mrs. Anna R. Aspinwall, of Pittsburgh.

The eleventh annual meeting of the Association of American Physicians will be held in Washington, District of Columbia, on April 29, 30, and May 1.

The legislature of Massachusetts has been petitioned to prohibit the manufacture and sale of acetylene gas on the ground that it is dangerous to life and property.

Three medical colleges in Kansas City have been ostracised by the State Board of Health because of their refusal to comply with the requirements of that body.

It has been decided by the Illinois Supreme Court that physicians are not obliged to report contagious diseases or render other service to the public without compensation.

In compliance with the excise law the sale of brandy drops or other confections containing intoxicating liquors has been ordered discontinued in New York by the police.

A mixture composed of equal parts of salol and antipyrin is announced as a new treatment for metrorrhagia. The remedy is applied by the aid of a tampon of absorbent cotton.

Doctor Aronson announces that he has succeeded in rendering goats immune against tuberculosis by the injection of an antitoxin prepared from the blood of a goat infected with the disease.

The Pennsylvania Hospital is erecting an annex for insane patients. It will be 200x70 feet, and will have accommodation for fifty beds. The cost of the structure is estimated at $50,000.

Doctor A. F. A. King, of Washington City, has resigned from the staff of the Columbian Hospital. His action was a resentment of unjust treatment of a staff physician by a lay director.

Doctor Carsaquila, of Bogota, announces a cure for leprosy, and the government of the United States of Columbia has ordered that all lepers in the republic be treated by the new method.

An investigation of yellow fever is being conducted in Cuba. The Spanish government at Havana has appointed a commission composed of army and navy medical officers and Havana physicians.

Doctor Raphael Blanchard is the youngest member of the French Academy of Medicine. He is thirty-nine years of age and is considered an authority on the parasitic diseases of man and the lower animals.

The game of golf is responsible for a new ailment known as golfer's arm. The symptoms of this condition consist of pain in the arm along the line of the musculo-spiral nerve and numbness and tingling in the dorsum of the thumb and first finger. Friction and exercise in the fresh air are the curatives.

DOCTOR W. G. KIGER has introduced a bill in the Mississippi senate which contemplates that every licensed physician shall have a lein for medical services on the crop or wages of the person treated.

BICARBONATE of sodium is the latest remedy for a common cold. Doctor Zwisohn says that a cold is merely a symptom of indigestion, and that when the latter is cured by the soda the former disappears.

THE Boards of Health of New York state and city, in joint meeting assembled, appointed a committee to petition the legislature and government for a sufficient appropriation to eradicate tuberculosis.

THE city council of Philadelphia has recently enacted an ordinance providing for an appropriation of $250,000, with which to erect one or more experimental filter plants for the purpose of purifying the water supply.

SEVENTEEN convicts afflicted with pulmonary tuberculosis are confined in an isolation ward of the Illinois State Penitentiary. They are incurables and consequently condemned to death; and this in a civilized country.

THE Imperial German Health Officer, Professor Kohler, states that in cases examined by him, symptoms of tuberculosis have been discovered in the body of every third dead person between fifty and sixty years of age.

THE Saint Mary's Free Hospital for Children in New York City will establish a summer home at Norwalk, Connecticut, having purchased thirty acres of land upon which the trustees intend erecting commodious hospital buildings.

THE mescal button, in the form of tinctura Anhalonii, is now recommended as a stimulant in depressed mental conditions. In doses of one to two teaspoonfuls it has been successfully employed in nervousness, hysterical affections, and colic.

IT has been demonstrated by the Imperial German Health Bureau that aluminium is superior for cooking utensils to copper, tin or lead. The series of experiments proved that this metal does not communicate any poisonous salt to the food.

PARIS records an annual mortality of 155,000 children under one year of age. The chief cause of death is neglect of mothers. The proportion of illegitimate births in France is about nine per cent., while it registers twenty-eight per cent. in Paris.

DOCTOR KITASATO's serum is the latest therapeutic boon announced to the medical profession. It is said that this experimenter has discovered a serum which will arrest the plague and cholera, cure diphtheria, and neutralize the effect of the bacillus lepræ.

THE New York Red Cross Institute was recently incorporated in the Empire metropolis. Its object is to render assistance to the sick or wounded of all nations, creeds, or sexes, in time of peace or war by supplying efficient physicians, surgeons, and nurses.

THE pathogeny and therapy of cancer will be studied by an anticancer league which is contemplated in Paris. Doctor Duplay is the leading spirit in the advocacy of the organization, and he will supplement his efforts in this direction by establishing a journal devoted to the treatment of cancerous diseases.

THE following officers were elected at the recent semiannual meeting of the Nevada State Medical Society: President, Doctor P. T. Phillips, of Reno; vice-president, Doctor P. Manson, of Virginia City; secretary-treasurer, Doctor T. P. McDonald, of Virginia City.

THE United States Supreme Court recently decided that when the defense in a case of murder attributes the deed to the insanity of the perpetrator the prosecuting attorney, in order to obtain conviction, must produce evidence to prove that the accused is not insane.

A COLORED patient in the Howard Hospital of New York recently succumbed while under the influence of ether anesthetization. About two drachms of the anesthetic had been employed. Postmortem examination revealed tuberculous disease of the lungs, miliary in nature.

THE Indiana State Medical Society has taken steps looking to the issuance of a revised edition of the "Medical and Surgical History of the War." A committee has been appointed with power to draft resolutions appealing to congress to authorize the publication of the work.

HAYEM'S serum is employed in French surgery to combat the depression incident to operations. It consists of five grammes of sodium chloride, twelve grammes of sulphate of soda, and one litre of distilled water. The mixture is sterilized by boiling, and administered hypodermically.

RUTLAND, Massachusetts, has been selected as the site for the new hospital for consumptives. It is 1,200 feet above sea level, being the highest town centrally situated, and is accessible by the Central Massachusetts railroad. The commissioners will proceed to erect the building at once.

NEW YORK is aroused to the necessity of legislating against the cigarette nuisance. A bill is before the senate making it a misdemeanor to sell adulterated or drugged cigarettes, to sell or give cigarettes to a minor under sixteen years of age, and providing for the issuance of licenses to venders of the noxious agents.

A CONTEMPORARY announces that a woman in Elizabeth, New Jersey, recently coughed up a wisdom tooth which had been lodged in her bronchial tube three months, it having been deposited in the air passage at the time of extraction which was performed under the influence of nitrous oxide gas. The dentist evidently lost his grip.

THE World's Congress of Medico-Climatology recently convened at San Antonia, Texas. A committee was appointed to consider the advisability of petitioning congress to establish sanitariums in different sections of the country to facilitate the scientific investigation of consumption. The chairman will report at the next meeting which it was decided to hold in Atlanta, Georgia.

A NEW antiseptic and analgesic dressing emanates from Paris. It is called *la ouate picrique*, and is prepared by steeping purified cotton wool in a saturated solution of picric acid. After drying in a disinfecting stove it may be cut into sections for convenience. A square section soaked in water and applied to a burn affords immediate relief from pain, and persistent applications are said to effectually cure burned areas.

The prevention of blindness in newborn infants recently received favorable consideration from the legislature of Pennsylvania in the passage of an act requiring midwives, nurses and others to immediately report cases of ophthalmia neonatorum to a physician or health officer, and now the Philadelphia Board of Health has issued to attendants upon lying-in women the text of this law. The penalty for noncompliance with the terms of the act is $200 fine or imprisonment for thirty days, or both.

Doctor John De Haven White, an early and eminent American dentist, recently died in Philadelphia. He began the study of medicine in 1836, entering the Jefferson Medical College, from which he received the degree of M. D. In the meantime he had given some attention to the study of dentistry, and afterward had the degree of D. D. S. conferred upon him by several colleges. In 1845 he was instrumental in founding a dental society, and from this nucleus he developed the Pennsylvania College of Dentistry in 1852.

Aseptolin is the latest remedy for consumption. It is a product of water, phenol, and pilocarpine-phenylhydroxide, and has been introduced by Doctor Cyrus Edson, of New York. It is a colorless fluid and has the characteristic odor and taste of phenol. It is administered by injection into the abdominal parietes, the initial dose being from fifty to seventy-five minims, which amount is increased ten minims daily until one hundred and twenty minims are reached. This dosage is maintained until recovery ensues or idiosyncrasy contraindicates.

A man in New York died of consumption eight months after having been struck by a cable car which inflicted an injury to his knee. In a suit instituted for damages by the widow expert testimony was introduced to show that the knee became tuberculous in consequence of the accident, and that a base of operations was thereby afforded the bacilli to attack the system and establish their throne in the lungs. The defense produced a witness who testified that there could be no connection between the injury and the death, but the jury returned a verdict of $6,500 for the widow.

Doctor Joseph Jones, an eminent physician of New Orleans, died on the 17th instant, aged sixty-three years. He was Surgeon-General of the United Confederate Veterans and had been president of the Louisiana State Board of Health. He graduated at the University of Pennsylvania in 1855, and soon became professor of Chemistry in the Savannah Medical College, and later enjoyed professorships in the University of Georgia, the University of Nashville, and the Tulane University of Louisiana. He was a public-spirited citizen and prominently identified himself with the interests of his city and state.

At the instigation of the Medical Society of New York a bill contemplating the abolition of the office of coroner has been prepared and will be presented to the state legislature. It provides for substituting the coroner system by medical examiners and assistant medical examiners who shall be appointed by the appellate divisions of the supreme court. Each class shall consist of four physicians, one of whom shall be an expert pathologist, and another an expert chemist. The principles are to receive a yearly salary, not exceeding $5,000, from the state, and the assistants are to be paid by the counties in the different appellate divisions of the supreme court.

New York has a law which prohibits the sale of drugs and medicines in other stores than pharmacies. Recently it has been discovered that a dozen grocers in a certain district in Brooklyn were selling medicinal preparations, and the superintendent of police has issued an order to the members of the force to compel a strict observance of the law. Those who have violated the edict will be prosecuted.

Meningitis is now announced as within the pale of diseases amenable to serum treatment. Righi has reported the case of a seven-year-old boy in whom meningitis had developed from an injection of pneumococci. A sister of the patient was convalescing from meningitis and the doctor tried the experiment of injecting into the boy blood serum obtained from the girl. After the employment of five cubic centigrams there was an abatement of fever, danger disappeared, and rapid recovery ensued.

RECENT PUBLICATIONS.

REVIEWS.

SPECTACLES AND EYEGLASSES.*

Students of ophthalmology will find in this little book the special information they will need on the subject of adjusting and fitting comfortable and convenient glasses. For the use of many physicians who, from the lack of skilled opticians in their neighborhood, are compelled to prescribe glasses for their patients, this little work will be very valuable.

*Their Forms, Mounting and Proper Adjustment. By R. J. Phillips, M. D. Second edition, revised with 49 illustrations. Price, $1.00. Philadelphia: P. Blakiston, Son & Company.

MYXEDEMA AND THE THYROID GLAND.*

This valuable and complete resume of our knowledge on diseases of the thyroid and their treatment was originally written in Portuguese for an inaugural thesis. It is an exceedingly well written and lucid essay and will be perused with interest and advantage.

*By John D. Simlette, W. R. C. S., L. R. C. P. London: J. & A. Churchill.

A HAND BOOK OF THE DIAGNOSIS AND TREATMENT OF SKIN DISEASES.*

Doctor Van Harlingen's manual has enjoyed some previous popularity, and the call for a third edition is undoubtedly based on the merits of the work. So many manuals are too brief in their descriptions, and others are distressingly prolix. This work seems to strike the happy medium. It is clear and full in the text, and amply and carefully illustrated.

*By Arthur Van Harlingen, Ph. B., M. D., Emeritus Professor of Dermatology in the Philadelphia Polyclinic. Third edition, revised and enlarged. Sixty illustrations. Price, $2.75. P. Blakiston, Son & Company, Philadelphia.

IMMUNITY PROTECTIVE INOCULATIONS IN INFECTIOUS DISEASES AND SERUM THERAPY.*

THE subject of Surgeon-General Sternberg's book is the one which is today in medicine of most transcendent interest. The subjects of immunity, and immunizing agencies are discussed in a fascinating manner. The philosophy of neutralizing serum and antitoxins is a field in which undreamed-of triumphs are to ensue, and the reader cannot better acquaint himself with the conditions of the problems than by familiarizing himself with the contents of Doctor Sternberg's excellent work.

*By George M. Sternberg, M. D., LL. D., Surgeon-General of the United States army. William Wood & Company, New York.

THE URINE IN HEALTH AND DISEASE, AND URINARY ANALYSIS, PHYSIOLOGICALLY AND PATHOLOGICALLY CONSIDERED.*

UROLOGY has in recent years so much developed as to be esteemed a special science. Professor Black's manual will be found to contain many little incidental points worth consideration in addition to that which is esteemed standard and essential in the science. The work is complete and concise.

*By D. Campbell Black, M. D., L. R. C. S., Professor of Physiology in the Anderson College Medical School. In one 12mo volume of 256 pages, with 73 engravings. Cloth, $2.75. Philadelphia: Lea Brothers & Company, Publishers, 1895.

ATLAS OF CLINICAL MEDICINE.*

DOCTOR BYRON BRAMWELL's atlas of clinical medicine is a fascinating work. It is purely clinical, consisting in the clinical notes of cases in which the patients and their varying conditions are admirably exemplified by the splendid illustrations which accompany the text. The author's well-known celebrity in the field of nervous diseases makes his cases full of interest and instruction. The thyroid treatment of skin diseases is lucidly described and wonderfully demonstrated by an excellent series of plates. The atlas is likely to take rank as a medical classic.

*By Byron Bramwell, M. D., F. R. C. P. (Edinburgh), Assistant Physician to the Edinburgh Royal Infirmary. University Press, Edinburgh.

MEDICAL PROGRESS.

MEDICINE.

A NEW AND IMPORTANT TREATMENT FOR THE MORPHINE HABIT.

IN the treatment and cure of this disease we have existing gastric and hepatic disturbances to treat and relieve, and we have to get up a proper elimination of excretory products through the kidneys. We have also to induce in the heart's action a condition of regularity in rhythm and frequency. We have to properly tone and increase the nutritive condition and working capacity of an enfeebled or irregular heart, and perhaps there is nothing more important in the whole treatment of the morphine habit than to do this successfully.

There are many remedies that have their appropriate therapeutic sphere that are here familiar to the profession. We must, if we are to cure our patient, increase the force and frequency of the muscular contraction, lengthen the systole, and nourish the heart muscle tissue, or our patient will drop back to the use of morphine again to regulate his heart. If, in the treatment in the case of morphine habit we neglect to establish a regular, rhythmical action of the heart, and a uniform tonicity of the vascular system, and do not place the heart in the best possible condition toward performing its mechanical function effectively and maintain an equivalent nutritive activity, we shall not cure that case.

We employ a plan of treatment by which it is impossible for the patient to tell when he ceases to take morphia, and we insist upon a proteid diet, which gives the most energy and force to our patient with the least expenditure of oxygen to digest and assimilate it. We use electricity in all its forms to strengthen the functions of the structures of the body. We use the glycero-acid phosphate as a nerve food. In combating insomnia, we use milk in large quantities at night, or trional; also the prolonged warm bath, with cold to the head. As a sedative, we use valerianate of zinc, combined with extract of belladonna. As a reconstructive and stimulant tonic, we use the glyceride of the hypophosphites, with iron, quinia (alkaloid), and strychnia, which is richer in the hypophosphites than any we have been able to obtain, and which causes repair to exceed waste in the nervous system very rapidly.

We also use and like the maltine and cocoa wine; fluid extract of cocoa we also use. Centric galvanization and general faradization we cannot praise too highly. In short, we employ all therapeutic measures which operate in getting the centric nervous system to the highest resisting point; and the last caution we give our patient, when restored to health, is, never to permit any one to administer to him or her, as the case may be, another injection of morphia as long as the patient lives, and, if necessary, to suffer pain rather than again to fall into the toils of morphia addiction.—E. C. Mann, M. D., in *The Virginia Medical Monthly.*

THE QUICK FILTRATION OF URINE.

For a very long time, says a writer in *The Boston Medical and Surgical Journal*, it has been a problem to know how, with the apparatus usually at hand, to obtain quickly and easily a small quantity of clear urine from a cloudy specimen in order to make the usual test for albumin.

The following plan, which has proved extremely easy and satisfactory in my own case, will, I think, be found equally so in the hands of others. A small quantity of the cloudy urine is placed in a test-tube, and the mouth of the tube plugged with cotton to a moderate degree of firmness. A second test-tube is placed with its mouth to the first. The position of the tubes is now reversed so that the one with the urine is bottom upward. The upper tube is now carefully and gently heated over the flame of a Bunsen burner or an alcohol flame, and the expansion of the air above the urine immediately forces it through the cotton plug, and the filtered urine collects in the lower tube. In this way we imitate to a degree the rapid filtering apparatus of laboratories, but use pressure above the fluid to be filtered, instead of an air-exhaust below.—*The Times and Register.*

SURGERY.

IS THE DISINFECTION OF WOUNDS POSSIBLE?

Haenel (*Deut. med. Woch.*, 1895, Number VIII; *Cent. für Chir.*, 1895, Number XXII) believes that the result of the following researches have proved or tend to prove that it is impossible to disinfect living tisues with chemical substances, and that the best means of producing recovery is to provide free drainage for the secretions of the wound, to keep the wound broad open, and absorb all the osmotic secretions in the dressing.

His experiments were conducted on forty-four guinea pigs. The wounds entered the muscular tissues and were infected by tampons containing a virulent fluid, having in it both streptococci and staphylococci. The tampons remained in for times varying from four to eighteen hours. The wounds were then washed out and dressed with solutions of either three per cent. carbolic acid or six per cent. of sodium chloride, and were then dressed with tampons and moist gauze dressings soaked in the respective solutions. Six cases were dressed with aseptic dressings without tampons.

Under conditions as similar as possible no distinction could be made between the course of healing whether carbolic or sodium chloride had been employed in the solutions. If the virulence was marked the animals died of acute infection. If the course was chronic there was no distinction possible either in the intensity of the infection or duration of the recovery.—*The American Journal of Medical Sciences.*

A NEW TREATMENT OF PUERPERAL SEPSIS.

The most modern treatment of general septicemia is that of hypodermic injections of creasote, recommended by Frank, of Cologne, Germany. This method has been employed by Mehrtens, of Dusseldorf, in a case of puerperal sepsis, with remarkable results, the temperature falling from 104° Fahrenheit to normal, after the injection of creasote. A rise on the next day to 104° was again brought down by the injection, and subsequent injections, three times a day, prevented its recurrence. Mehrtens used a solution of equal parts of creasote and camphorated oil, of which he injected twenty minims three times a day. None but good effects were observed.—*The Charlotte Medical Journal.*

OBSTETRICS.

WHY DOES THE FETUS PRESENT BY THE CEPHALIC EXTREMITY?

Doctor Anstruther Davidson (*Glasgow Medical Journal*, June, 1895) considers this question and attempts its answer. He thinks that Simpson's theory is pretty doubtful yet, and believes that the oviod shape of the uterus has little effect upon the presentation of the fetus; indeed, that the uterus is compelled by the position of the fetus to assume that shape. Both the theories of "gravitation" and "adaptive action" are inadequate. Doctor Davidson bases his idea upon the observations of the larvæ of hymenoptera. These larvæ always turn their heads to the natural outlet. In the human subject the mothers whose fetuses presented otherwise than by the head would, in the savage state, gradually die out. "The cephalic presentation, whether at first an accident or an inheritance from the lower forms of life, as seems the more probable, is instinctive in the fetus now." The author therefore thinks that the cephalic presentation has become the normal one for the higher mammalia by a process of natural selection.—*The University Medical Magazine.*

ANTISEPTIC DOUCHES AFTER LABOR.

In the obstetric clinic the question is frequently asked, do you give antiseptic douches after labor? In answering this question Doctor Wills gives his opinion as follows: After a perfectly normal labor conducted under antiseptic presentations, in a clean room, the hands of physician and nurse having been perfectly prepared, and the patient a healthy woman, one free vaginal douche containing some mild antiseptic agent, such as creolin, lysol or boric acid, is sufficient, provided the vulva be kept covered with an occlusion dressing. Both the liquor amnii and lochia are in such cases sterile fluids, and infection is not likely to occur except from without, this being prevented by the occlusion dressing. When, however, the labor has been long, forceps have been used, or the physician's hand inserted within the uterus for version or removal of the placenta, or considerable laceration of the parts has occurred, an antiseptic douche may be used once a day for five or six days with good effect.—*The Philadelphia Polyclinic.*

THERAPEUTICS.

STROPHANTHUS IN ALCOHOLISM.

Skvortzaw (*Dublin Journal*), while treating a patient in an attack of dipsomania, administered tincture of strophanthus, in doses of seven drops three times a day, in order to relieve the action of the heart, and to his surprise found that with the first dose the patient was taken with nausea and disgust with alcohol, the use of which he stopped at once. In two other cases he had the attack of dipsomania was abated at once. In all three patients the symptoms were the same: the drug first caused nausea, followed in a short time by free perspiration—phenomena not usually observed in nonalcoholic cases. In none of the three were there any mental symptoms following the sudden stoppage of the stimulants.—*The American Medico-Surgical Bulletin.*

A NEW DISCOVERY CONCERNING ALCOHOL.

The antidotal effect of alcohol in carbolic acid poisoning is recorded in *The Medical Record* by Doctor Donald B. Fraser, of Stratford, Ontario. A woman had resolved to employ carbolic acid as a means of self-destruction, and began casting about for a vehicle that would obviate pain. She first mixed the acid in beer, and cautiously drank a small quantity, suffering but little pain or burning sensation. She then experimented with the acid in whisky, and felt less pain or burning. The suicidal drink consisted of half-and-half. Fifteen minutes after its ingestion the woman was in a condition of profound stupor, with the pupils contracted to pin-points. No staining or other evidence of the corrosive action of carbolic acid appeared on the lips, tongue or about the mouth or throat, but an empty bottle, labeled carbolic acid, told the story. Four hours after swallowing the poison the pulse was strong, regular, and not much accelerated; the respiration was undisturbed; the temperature was slightly under 98° Fahrenheit; the arms and legs indulged in occasional jerking, but no sensation was elicited on pricking the fingers or toes. Eight hours after taking the poison the patient recovered consciousness and told what she had used, adding that she felt only slight pain or burning sensation, and had experienced pleasant dreams. Vomiting now ensued and continued almost uninterruptedly for twenty-four hours, when it suddenly ceased and convalescence was rapid.

If a mixture of equal parts of carbolic acid and alcohol be poured over the back of the hand, scarcely a trace of corrosive action will be apparent if the applied surface be promptly washed off with alcohol. The white stain caused by the liquid carbolic acid can be removed by the immediate and continued application of alcohol. If a pad be saturated with alcohol and applied to a carbolic acid burn the pain will be relieved and the stain removed until heat is felt in the pad, when both pain and stain return. This phenomenon will continue as long as heat develops in the pad, and will cease when heat is no longer evolved, therefore continue changing the pads until the desired effect is produced.

The symptoms in this case were somewhat akin to those produced in opium poisoning. The diagnostic feature was the quiet and regular breathing. Aside from its antidotal properties, alcohol acts as a stimulant to combat the intense depression usually experienced in carbolic acid poisoning.

BACTERIOLOGY.

A NEW WAY TO ISOLATE THE TYPHOID BACILLUS.

According to Professor Brieger, more than seven hundred articles have been written about the typhoid fever bacillus, in the last few years. Nevertheless, no one has yet discovered a certain method of isolating it until the present time. Such a method has, however, we are told, lately been discovered by Doctor Elsner, assistant physician at Professor Koch's bacteriological institute. After boiling gelatin together with an infusion of potatoes, he adds a quantity of soda and filters and sterilizes the mixture, which is then put into tubes filled with a one per cent. solution of iodide of potassium. The tubes are then inoculated with the dejecta, and the gelatin is deposited on glass plates in the usual way. The researches of Doctor Elsner have proved that all bacteria perish in the iodide of potassium gelatin except the bacillus of enteric fever and the bacterium coli commune. After twenty-four hours the bacillus of enteric fever is scarcely visible on the gelatin, but the colonies of bacterium coli are already somewhat large at this period. After forty-eight hours the colonies of the enteric fever bacillus become visible as small clear masses like drops of water, whereas those of the bacterium coli are large and of a dark-brown color. No other bacteria of the dejecta besides the two above named are to be seen. Doctor Elsner has published twelve cases in which he found the bacillus after forty-eight hours in every stage of the illness. The number of the bacilli decreased as soon as the temperature became lower. In one case complicated with thrombosis of both crural veins they were present even after thirty-eight days.—*The Medical Record.*

MELANGE.

SILVER A NONGERMICIDE.

Doctor Welch, the bacteriologist for Johns Hopkins Hospital, has demonstrated that germs will not grow in the immediate vicinity of silver. His discovery is made use of in the dressing of aseptic surgical wounds, by placing silver foil immediately in contact with the closed incision in sheets about four inches square. The other aseptic dressings are then applied.

EXAMINATION OF VIRGINES INTACTÆ.

The bimanual examination of virgines intactæ should always assume the form of a recto-abdominal palpation. There is no need in these cases of a vaginal examination; the finger in the rectum will teach us all we wish to know concerning uterus, tubes, and ovaries. The only difficulty to be overcome is to identify the cervix; a little practice will enable us to master this detail.—**Edebohls.**

ALUMNOL AS A HEMOSTATIC.

A ten per cent. aqueous solution of alumnol when a hemostatic is necessary after operations in, or traumatism to, the nose and throat. It does not form an objectionable magma with the blood as do many astringents, nor has it shown, at any time during a year or more of its use, any untoward action upon the mucous membrane of the nose or adjacent passage, but the results from its use are most excellent.—**Rugh.**

MEDICO-LEGAL POINTS IN REGARD TO INFANTICIDE.

(1) **It** is possible for a woman to be unconsciously delivered, but not likely that she should go through the full term without being conscious of her pregnancy. (2) If the child was suddenly and unexpectedly born, and dropped accidently on the floor or into a water-closet vault, the cord would be found torn and broken off and untied, and not cut and tied in the ordinary manner. (3) In order that a child shall be live-born within the meaning of the law, it must show some sign of life after being completely separated from the mother. (4) If a woman prepare no clothing for her child, and the child be found dead shortly after birth, this would be considered very strong evidence that the woman intended to destroy it. (5) It is possible that a child may be born living, yet so badly deformed as to render the prolongation of life, after the separation of the cord impossible. (6) If the child has food partly digested in the stomach and intestines and the meconium all passed away, the child has lived at least twenty-four hours and has been fed. (7) If the septum ovalæ of the heart is found closed, making a four-cavity heart, the child has lived as much as four days. (8) If the navel cord has withered and come away, and the navel healed completely, the child has lived as long as a week. (9) It is a fact worthy of remembrance, that a child will stand a great amount of exposure, and that they have been found living for days after neglect under the most terrible circumstances.

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ORIGINAL CONTRIBUTIONS.

MEMOIRS.

INSANITY IN ITS RELATIONS TO CRIMES, CONTRACTS, AND WILLS.*

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WE shall consider tonight some of the medico-legal phases of a subject which has, for ages, been the favorite theme of inspired poets, learned doctors, grave and reverend lawyers, and writers of any and every smaller degree. There is something fascinating in the consideration of a mind that is out of balance. The terrible nature of the disorder, its many startling manifestations, the weird mystery that surrounds it, all lend to a fascination which few of us can easily resist.

It may be that the uncertainty of the subject is what gives to it its interest. Mental unsoundness cannot be weighed in our scale pans or tested in our alembics, as are the material objects of our investigations. We cannot measure it and lay it out with compasses and dividers, telling just where the limits of this kind begin and of that kind end. It has its terrible, shadowy borderland, its broad, cloudy nimbus which makes it very difficult to tell exactly when we have reached the region of undoubted mental insanity. You know, one of the most popular definitions of superstition is, that it is what the *other* fellow believes. And the old Scotch lady was not so very far from the truth when she said to her helpmeet, "Na', Na', Jock, I ha' been speerin' that a' men are a wee bit queer except me and thee; an' o' late I ha' been ha' in' ma doots aboot thee."

It is a matter of common observation that the insane are just as positive in their convictions as to the insanity of their keepers, as their keepers are sure that the patients are insane; and when, in cases of escapes, where the patient, by a cunning trick, has assumed the custody of his keeper, one sees the ease with which the deception is carried out, it may well cause one to tremble, and pause and pinch himself, and probe his mind, to see whether, after all, he himself is all right. So it has come about that the terrible uncertainty attending this subject has made it a theme of most thrilling interest to men in all walks of life, and I am sure that in my selection of a subject for your consideration this evening. at least, I have done well.

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*Read before the WAYNE COUNTY MEDICAL SOCIETY.

It is with considerable hesitation, however, that I begin the discussion of this topic before an audience of this kind, composed of men whose every day business it is to consider the multiform manifestations of this disease and to administer practical remedies, especially when I know that several are here whose study of the subject and whose practical experience with it have given them a national reputation. I feel that, so far as they are concerned, I shall be traversing familiar territory, and I shall count myself fortunate if the few observations which I shall make shall suffice to refresh their recollections of the subject and stir with suggestions their deep knowledge, so that, in the after discussion of this paper, the members of this society may have the opportunity of making large drafts upon their rich stores of experience.

I am to consider tonight the legal side of insanity in a threefold aspect, namely, in its relations to crimes, to contracts and to wills. And we may best discuss them in detail when we have first offered some general observations affecting all three.

In the first place, insanity is mental incapacity, whether it is considered from the standpoint of civil or of criminal law. The usual definition, namely, mental unsoundness, is all right when it is clearly understood; but all mental unsoundness is not insanity. Good definitions are hard to find. Men multiply words, and generally succeed in concealing thought when they attempt to define a subject; and the best definition we have succeeded in finding is the one we have made ourselves, namely, mental incapacity.

The whole theory of the law, in all of its widespread ramifications, touching, as it does, every relation of life, is based upon the fundamental principle that its subjects have control of their mental faculties, that they have the mental capacity to know right from wrong and the mental ability to make contracts for or against their own interests. The law addresses itself to the mind, not the body. The object of judges in construing wills is to ascertain the testator's real intention—his disposing mind. Every court, in construing a contract, first endeavors to ascertain when and upon what subjects the minds of the contracting parties met. The object of the jury in a criminal court is to ascertain whether the accused had the evil intention, or wicked mind, to commit the crime with which he has been charged, and unless this intention has been clearly proven beyond a reasonable doubt, he goes free, although he may have committed the very act for which he is being tried. The object of equity and of the elastic rules of chancery procedure is to overturn the rigid requirements of the law, and, although it is so nominated in the bond, to punish the fraud which misled the party, enslaved his mind and prevented his real intention from being carried out. Since, then, the broad domain of the law is so largely connected with the minds of men, it can be readily seen how important in legal jurisprudence is this subject of insanity.

The law contemplates that every man has, or should have, full possession of his mental faculties. It is upon this theory that the doctrine of responsibility is founded. And let me here step aside from my subject long enough to say that the entire object of statutes, codes, and rules of law, of courts and of juries, is to enforce legal responsibilities. If, in a passion, I draw a weapon and seriously wound you, I am responsible for it, and the law will punish me. If I agree with you to do a certain thing, I am responsible for the performance of that thing, and the courts will enforce my responsibility. If, by reason of my negligence in doing or omitting to do that which should be done or omitted, you suffer damages, I am responsible for that damage and the courts will enforce that responsibility. The whole scheme of the law is to enforce these myriad responsibilities, and its first and fundamental principle is that no man can be held responsible unless he is of sound mind; that is, unless he has the mental capacity required of him by the law in this particular respect. The degree of mental capacity that is required of him differs with the differing relations, and it is on account of these differences that so much uncertainty has arisen in the administration of the law. The foundation principle, however, is clear and easy to understand. If a man is mentally sound, he must stand responsible, either civilly or criminally, and our sole difficulty will be to ascertain in each case the exact degree of mental sanity that is required.

Let us first consider our subject in its relation to crimes. Here again, we may lay down some broad fundamental principles. Every man is criminally liable for any infraction by him of the criminal laws of the land. In order, however, for him to be legally convicted, several essential elements must be proven by the prosecution, to the satisfaction of the jury, beyond a reasonable doubt. One of these elements is the existence of the evil intention in his mind at the time of committing the crime, and unless this evil intention be clearly proven he cannot be convicted, for the criminal intent is the vital essence of the crime. It is the law that an insane mind cannot have a criminal intention. Our own Supreme Court, in the case of the People versus JAMES FINLEY, decided in 1878, the opinion being written by CHIEF JUSTICE CAMPBELL, have tersely expressed the proper status of the accused in a criminal case where the defense is insanity. The learned chief justice there approves of a charge of the trial court upon the subject of insanity, "That the respondent would be blameless in law, (1) If by reason of insanity he was not capable of knowing he was doing wrong; or (2) if he had not power to resist the temptation of violating the law." It will be observed that the trial judge in his charge recognizes two kinds of insanity; the first clause relating to the unsoundness of the perceptive faculties or understanding,—the intellect,—the first of the three great subdivisions of the human mind. The second clause relates to the insanity of the will,—the third of the three great subdivisions of the human mind,—the motor, or governing, power. The law recognizes as an excuse for crime the impairment or total destruction of either of these faculties. In his opinion in the FINLEY case, however, the venerable chief justice very clearly and sensibly enunciates the doctrine of criminal responsiblity where the defense is insanity, in the following words: "The law has no theories on the subject of insanity. It holds every one responsible who is compos mentis, or a free agent, and every one irresponsible who is non compos mentis, or not having control of his mind. Unfortunately for the administration of justice, persons are sometimes found, who, with small experience and large conceit, have succeeded in formulating theories under which, if properly applied, there would hardly be enough sane persons found to sit upon juries or attend to business. If the term 'insanity'—which, it may be remarked, is not a term of the law at all—is so far enlarged as to include persons who not only have knowledge of wrong, but also capacity to resist it, then it includes persons whom the law deems capable of crime, and is a phrase entirely inapplicable in civil or criminal law." We may therefore safely say that theoretical, captious or whimsical insanity is no defense to a crime. It must be honest, genuine insanity. The mental unsoundness must be such as to deprive the accused of the mental capacity which will enable him to distinguish between right and wrong. Here again we may use the terse language of CHIEF JUSTICE CAMPBELL as our try-square or standard. The inability to distinguish between right and wrong must be something more than the metaphysical doubting and fine spun distinction of closet philosophers which led the learned doctors of the twelfth century to speculate upon every conceivable form of moral responsibility, and even carried them to such whimsical lengths that they spent days in discussing the problem of how many angels could stand upon the point of a needle. The inability to distinguish right from wrong must be a common, sensible, everyday inability. The distinctions must not be wiredrawn and theoretical, but there must be mental incapacity to grasp the common, everyday distinctions between right and wrong.

Again, the latter part of the charge of the trial court approved in the FINLEY case, related to the power of the respondent to resist the temptation to violate the law. Here again, the sterling common sense of our beloved chief justice which has so justly brought such lustre upon the reputation of our Supreme Court, is manifest in his opinion. Our second proposition upon this subject is, that the law does not absolve from criminal responsibility by reason of uncontrollable excitement or frenzy amounting to insanity which is caused by the voluntary act of the accused in giving way to his impulses. And JUDGE CAMPBELL, in considering this branch of the subject in the FINLEY case, says: "There is some reason to believe that what the respondent relied on as 'temporary or emotional insanity' was that convenient form of it which enables a person who does not choose to bridle his passion to allow it to act and keep the upper hand just long enough to enable him to commit an act of violence and then subsides. If a person voluntarily allows his passion to be indulged in until it gets temporary control over him, he is responsible for the condition into which he thus falls, as a man who voluntarily becomes intoxicated is liable for his drunken violence. It is certainly a strange and unsafe doctrine to tolerate that anything should be deemed innocent insanity which in no way affects the mind or conduct except on the one occasion when it is excited by temporary anger and subsides with the gratification of that malignant passion."

It is necessary, however, to distinguish between insanity resulting from temporary intoxication brought on at or about the time of the commission of the alleged crime, and insanity as the result of previous intoxication. "Mental unsoundness, superinduced by excessive intoxication and continuing after the intoxication has subsided may excuse; or when the mind is destroyed by long continued and habitual drunkenness, or where the habit of intoxication caused an habitual madness, and where the person is insane at the time he commits the crime, he is not punishable, although such insanity be remotely induced by undue indulgence in spirituous liquors or from what, in a moral sense, is a criminal neglect of duty; for, if the reason be perverted or destroyed by the effects of disease, though brought on by his own vices, the law holds him not accountable." A fixed frenzy or insanity as delirium tremens or mania a potu, destroys all legal responsibility, and, although induced by voluntary intoxication is a good defense. It annuls responsibility provided the mental condition can stand the tests applied in other forms of insanity. The insane person is then no more punishable for his acts than if the delirium had proceeded from causes not under his control.

"So, too, if the person be made drunk by fraud or stratagem of another, or by the unskillfulness of his physician, he is not responsible for his acts; and a man, owing to temporary debility or disease maddened by the quantity of wine which he usually takes in his normal condition is not voluntarily insane."

Again, the degree of insanity is a very important factor in fixing criminal responsibility. The mere fact that a person is insane does not relieve him from criminal responsibility. The insanity must have been such as to prevent the accused from distinguishing between right and wrong in the particular act. The test of responsibility for crime lies in the capacity or power of the person to commit the act intentionally, and the inquiry is whether the accused had the capacity to distinguish between right and wrong with respect to the particular act. If he knew what he was doing and that the act was forbidden by law, and if he had power of mind to be conscious of what he was doing, he is responsible, although he suffers from mental aberration as to other matters. The brightness or dullness of the intellect of the accused makes no difference whatever in his responsibility, except as they bear directly upon the question as to whether he is sane or insane. If one is of sane mind, he is responsible for his criminal act, even though his mental capacity be weak, or his intellect of an inferior order. The law recognizes no exemption from crime less than some degree of insanity or mental unsoundness. And mere weakness of mind is not insanity, as the memory may be impaired and still the mind be sound. So, too, the law requires something more than occasional oddity, or hypochondria to exempt the perpetrator of an offense from his punishment. Then, again, even an insane person may be legally responsible for a crime committed in a lucid interval. The inquiry as to intention, insanity, and everything else bearing upon legal responsibility is with reference to the very time that the crime was committed.

The HAYWARD case, recently tried in Minnesota, has once more brought into prominence the subject of moral insanity. It will be remembered that CESARE LOMBROSO stated that HARRY HAYWARD was a degenerate. MAX NORDAU has written very entertainingly upon the subject, and it is one that is full of interesting speculation. But its legal status may be given in a very few words: moral or emotional insanity, which consists of irresistible impulse coexisting with mental sanity, has no foundation either in psychology or in law; but if a person is not conscious of the moral turpitude of the act or is deprived of his understanding and ignorant that he is committing an offense, the law will not infer a criminal intent. In such case, however, the moral power must be so deranged as to overcome any resistance made by the intellect.

It may be interesting to notice one important principle of the law of evidence relating to insanity as a defense to crime. The law of evidence is full of what the courts and lawyers call presumptions, that is, a starting out with the understanding or presumption that certain things are so well recognized to be generally true that they need not be proven in order to make out what is called a prima facies case. One of these presumptions is that sanity is the normal condition of the mind, and the prosecution in a criminal case may rest upon the presumption that the accused was sane when he committed the act for which he is being tried until this presumption is overcome by the defendant's evidence. This presumption, however, is rebuttable; and, inasmuch as it is the duty of the prosecution to prove every essential element of the people's case, what is known as the "burden of proof" being upon it, when any evidence is given which tends to overthrow that presumption, the jury are to examine, weigh, and pass upon the evidence with the understanding that, although the initiative in presenting the evidence is taken by the defense, the burden of proof upon this part of the question as well as upon all others, is upon the prosecution, to establish the conditions of guilt.

We shall next consider insanity in its relation to contracts. Here the law sets up a different standard and views the subject from a different standpoint. The fundamental principle that a sane man is responsible for his act, and that every man is presumed to be sane, obtains in civil as well as in criminal law. As a general rule, insane persons are incapable of entering into valid contracts, and any agreements which they may make are either void or voidable. By voidable is meant that under certain circumstances they may be set aside, and in certain other cases they may be held to be good. In order to invalidate the agreement of an insane person, it must be shown that it was the result of the insanity alleged. The mere fact of delusion or insanity, if unconnected with the matter under judicial consideration, is not sufficient to relieve the person who attempts to set it up as a ground of disability.

An exception to the general rule that the contracts of insane persons are either void or voidable, is found in the case of contracts for necessaries supplied in good faith for the insane person and suitable to his rank in life. By "necessaries" is meant the articles of food, drink, clothing, lodging, et cetera, which are necessary for the support and maintenance of a person in the station in life to which he belongs. Courts have given the word a very reasonable and fair construction, and it now has a reasonably broad meaning. For the comfort of this audience of physicians, I will say that medical attendance is recognized by all fair minded courts and lawyers as one of the necessaries of life, even for an insane person.

Another exception to the general rule is found in those cases where a person in good faith enters into a contract with another apparently sane person, and the contract is executed, that is, carried out, and an adequate consideration is paid, which cannot be restored by the lunatic, or those who represent him, so as to put the parties in the same condition in which they were before the contract was made. In such a case, the contract cannot be set aside by the lunatic, or those who represent him.

A person who is so insane as to be incapable of entering into a valid contract concerning property cannot enter into a valid contract of marriage, and our Michigan statutes make such a marriage absolutely void. Mere weakness of understanding will not invalidate a marriage; if it did, we lawyers would have our hands full. Nor will such insanity invalidate a marriage as does not affect the subject matter of the contract.

A violation of the marriage contract by an insane husband or wife does not furnish a good reason for the dissolution of the marriage. Thus, extreme cruelty, if caused by insanity, is not cause for divorce. And the same rule applies to acts of sexual intercourse between an insane husband or wife and a stranger.

Ordinarily, the deed of an insane person is only voidable, not void. In this state, however, the deed of an insane person is not merely voidable, but is void as against third persons if he never recovers his reason, or if he conducts himself when he does recover his reason so as to ratify his deed. And after his death, his heirs at law can have the deed declared void by a court of equity.

In determining the responsibility or lack of responsibility of insane persons in relation to contracts, the test is whether the mind had or lacked the capacity to legally consent to the contract. One who is an idiot and lunatic, or in any other form non compos mentis—either in all his faculties or a monomaniac as to the particular thing—or of intellect of a sufficient degree weak, imbecile from age, or deranged, is clearly incapable of executing a valid contract. Insanity superinduced by the fault of the insane person, as his habitual and long continued drunkenness, does not differ in legal effect from other forms of insanity. In the law, a person is not infrequently deemed to have a capacity for doing one binding act and not another. It is evident that one may possess the faculty required for entering into a particular agreement simple in its nature, yet not into another and more complicated contract. The inquiry is always as to the particular thing.

It is a maxim of the law that fraud vitiates everything into which it enters. Even the contract of a sane person is void if brought about by fraud. In cases of insanity, if the mind of a person to whom the fraud is addressed was weak, and especially if it was verging towards insanity, or if he was drunk, the fraud may be thereby rendered complete, when otherwise, under the circumstances, it would not be. The law is tender in dealing with the insane, and uses its utmost endeavors to protect them and to put them upon a fair basis with their more fortunate neighbors.

We shall next consider the subject of insanity in its relation to wills. In order to make a will a valid will, the testator must have sufficient capacity to comprehend the nature of the act he is to perform; he must understand the extent of the property of which he is disposing; he must comprehend the relations which he holds to those who have claims upon him, and be capable of making a rational selection among them.

"Less mind," so it is declared by the Supreme Court of Vermont, "is ordinarily requisite to make a will than a contract of sale understandingly, for the reason that in contracts of sale there are usually two parties in some degree of antagonism between their interests and efforts; so that here mind is opposed to mind, and, consequently, it is somewhat more difficult to see clearly the just bearing of all the relations presented than under the common circumstances of making a will, where one is left free to act upon his own perceptions merely." JUDGE WASHINGTON, of the Supreme Court of the United States, in the case of STEVENS versus VAN CLEVE, decided at circuit, held that: "A testator may not have sufficient strength of memory and vigor of intellect to make a digest of the parts of a contract and yet be competent to direct the distribution of his property by will. * * * * * A man may be capable of making a will and not making a contract. * * * * * In order to make a valid will, he must have a sound mind and memory. * * * * * It is not necessary that he should view his will with the eye of a lawyer and comprehend its provisions in its legal form. It is sufficient if he has such a mind and memory as will enable him to understand the elements of which it is composed—the disposition of his property in its simplest forms." So, CHIEF JUSTICE KIRKPATRICK, of New Jersey, in an opinion given in 1819, said: "It has not been understood that a testator must possess those qualities of the mind in the highest degree, otherwise very few could make testaments at all; neither has it been understood that he must possess them in as great a degree as he may formerly have done; for even this would disable most men in the decline of life; the man may have been in some degree disabled; the memory may have begun in some degree to be enfeebled, and yet there may be enough left clearly to discern and discreetly to judge of all things and of those necessary circumstances which enter into the nature of a rational, fair and just testament; and if they have so far failed that those cannot be discerned and judged of, then he cannot be said to be of sound and disposing mind and memory." It has ever been decided that there must be "A total want of understanding to render one incapable of making a valid will." Neither peculiarity of character, weakness of understanding, nor want of capacity to transact the ordinary affairs of life will disqualify one to execute a will.

The above are broad and fundamental principles. They might be amplified and perhaps modified by particular cases, but the facts in each case are peculiar to that case and all bear upon the one question as to whether the particular testator was of sufficiently sound and disposing mind and memory to render his will valid. For instance, an unnatural disposition of property is a circumstance tending to prove a lack of testamentary capacity when taken in connection with the previous temper and disposition of the testator; and numerous cases and variations in detail of the facts presented will readily occur to every physician and lawyer here, all of which, however, are peculiar to themselves, and all of which are properly considered in determining the testamentary capacity or incapacity of the particular testator in each particular case.

I need not, before this audience of learned doctors, enlarge upon the many different forms and varieties of insanity. Of dementia, delusions, hallucinations, imbecility, idiocy, and the myriad other phases of this dread disease. These are technical in their character and can be best discussed by you as physicians. The same legal principles run through them all. It matters not by what name the disease is called. The law deals with the actual condition in which it leaves the mind, and it views these conditions from the different standpoints which I have suggested.

I would like now to spend a moment or two in considering what is to you the most practical part of this whole subject, namely, the proof of insanity. In nearly every case where insanity is set up, physicians are called as witnesses. The law does not recognize expert testimony in these cases as being of any greater value than that of ordinary persons. The credibility of each person's testimony, be it layman or doctor, is to be weighed and determined by the jury. Nevertheless, if the testimony of a physician, called as an expert witness, is properly given, it must and should have great weight with the jury. As a rule, the physician will be called to testify with reference to the particular person whose sanity is under consideration. His testimony should be based upon a previous examination. The subtle essence of the mind cannot be subjected to ocular and visual examination. Its quality must be determined from close observation of the acts and conversation of its owner. Most physicians testify from a short conversation with the person, and we all know how unsatisfactory such an examination is. Nervous persons of perfectly sound mind may appear almost insane under certain conditions, while the wildest lunatic frequently converses for hours rationally and intelligently. In many cases it is only when his particular hobby happens to be touched upon that he manifests his mental bias, and in the absence of previous knowledge, how can the examiner know towards what point to direct his inquiry? In my opinion, the sanity of no person should be decided until he has been under close observation by competent physicians for a considerable period, say from one to two months, under all the circumstances most favorable to the examination. The examiner should be furnished with the life history of the patient, the history of his family for the preceding two or three generations, the mental condition of his ancestors with relation to possible hereditary taints, and the many other details which will readily occur to all of you. Without this opportunity for a careful and thorough examination, there will always be abundant opportunity for punishing innocent persons for crime, for setting clever and unscrupulous scoundrels at large and for depriving imbecile and incapable persons of large property interests by the clever machinations of designing villains.

THE TREATMENT OF TYPHOID FEVER.*

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AT the beginning of my three months of service at Harper Hospital, in October, 1895, I resolved to try DOCTOR WOODBRIDGE's method of treating typhoid fever, as it appeared reasonable in theory and had proved satisfactory in his hands.

Before speaking of this treatment in detail, let me call attention to some of the pathological conditions with which we have to deal. In common with most pathologists, we regard the EBERTH bacillus as the cause of typhoid fever. UFFELMANN has investigated the resistance of typhoid bacilli by drying, and their transmission in the air. Various materials after sterilization were saturated with water containing typhoid bacilli. The experiments showed that these organisms resist drying, and retain their power of development, in earth twenty-one days, in white sand eighty-two days, in house and street sweepings thirty days, and on linen from sixty to seventy-two days. In a warm, moist atmosphere the duration was longer.

SARNELLI, of Rome, has studied the relation between typhoid virus and human and experimental typhoid fever, which, he says, "is not primarily an intestinal infection." From a series of experiments on guinea pigs he concludes that EBERTH's bacillus, after penetrating the organism, produces a toxin which exerts its force upon the nervous centres, causing death in the lower animals, acting upon the mucous membrane of the intestine, it gives rise to the familiar ulceration in the solitary glands, all of the symptoms presenting a close analogy to those of typhoid in the human being. In experimental typhoid, EBERTH's bacillus is not frequently found in the intestinal contents; this fact militates against the idea that the disease is an infectious process, localized in the intestine. The absence of EBERTH's bacillus from the intestine of the animals thus inoculated is to be explained by two circumstances: first, that typhoid fever is an affection of the lymphatic system only; secondly, that, directly the poison begins to act on the intestinal walls, the colon bacteria become pathogenic and increase so enormously as to assimilate all other forms. The colon bacteria are supposed to constitute the first cause of secondary infections.

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*Read before the DETROIT ACADEMY OF MEDICINE.

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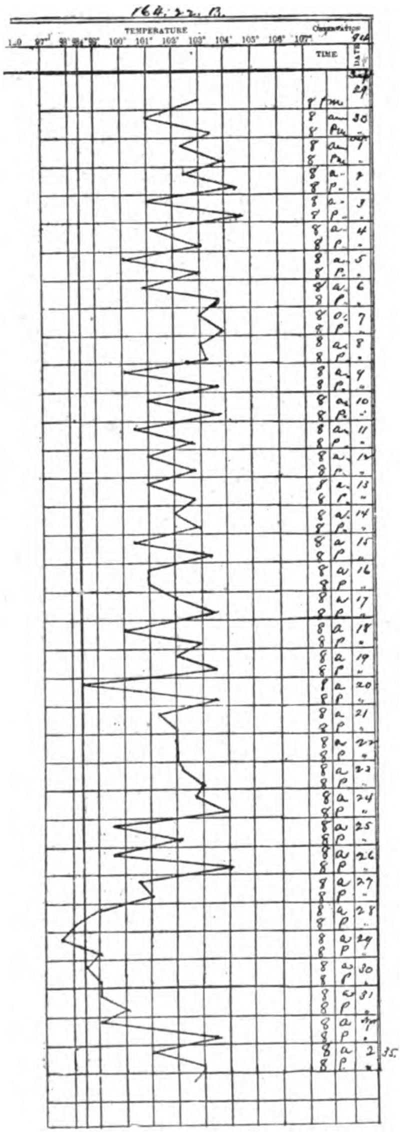

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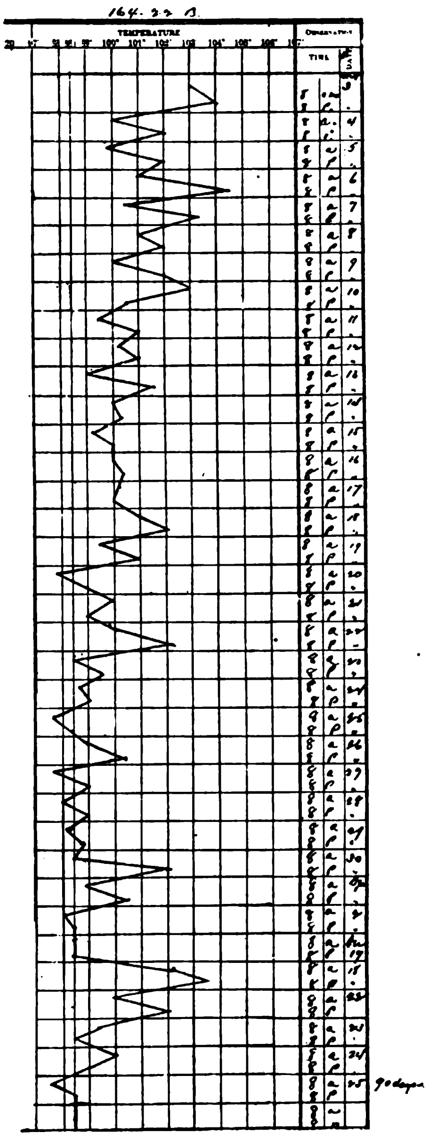

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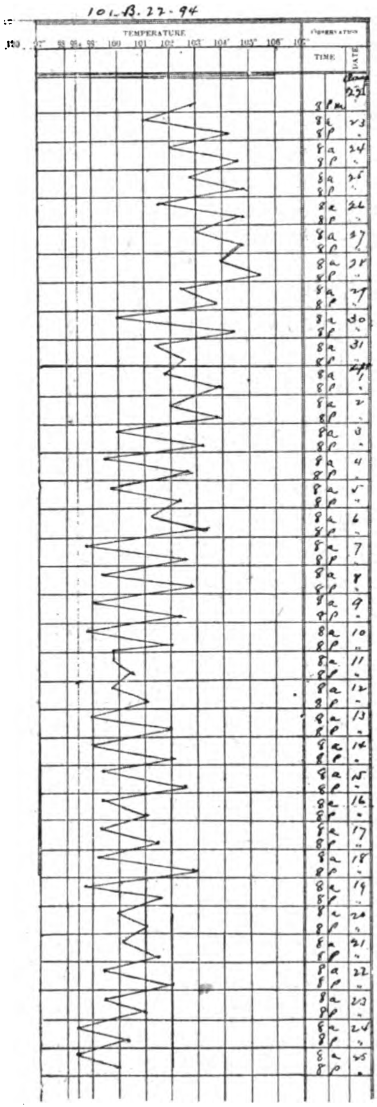


The lesions of typhoid fever are generally divided into two groups—those characteristic of the disease, and the secondary changes in the tissue that result from the long-continued fever. The characteristic postmortem changes are seen in the lymphatic glands of the intestine, the mesentery, and the spleen. The alterations are divided into four stages: (1) stage of infiltration; (2) stage of necrosis; (3) stage of ulceration; (4) stage of cicatrization. These pathological conditions are undoubtedly caused by the action of the bacilli upon the structure of the intestine. The separate stages are not necessarily chronological in the order of their development, but one, two, or even all three stages may be present in one Peyer's patch, and other glands may be found illustrating two or more stages. The secondary infection of the mesenteric glands, especially near that portion of the bowel most affected, is undoubtedly caused by pathogenic bacterial absorption. Glands in other parts of the body are often enlarged and show on section bacterial infection. The blood is vitiated, the white blood corpuscle is destroyed, the whole body suffers from constitutional infection, due to the long-continued fever, absorption of toxins, and destruction of blood corpuscles.

In the Woodbridge treatment we have a well devised attempt to employ antiseptic methods which have yielded such brilliant results in surgery. We no longer hear of "laudable pus," but on the contrary it is now regarded as an avoidable evil. Intestinal antisepsis is the corner-stone of this treatment, and under Doctor Woodbridge's method it is pushed to an extreme limit. According to the doctor, three formulas are employed. The first consists of:

NUMBER ONE.

Podophyllum resin, ...	1–960 grain.
Mercurous chloride, mild, . . .	1–16 grain.
Guaiacol carbonate, ...	1–16 grain.
Menthol, ...	1–16 grain.
Eucalyptol, ...	q. s.

and should be given every fiteen minutes during the first twenty-four hours, and oftener if necessary during the second twenty-four, until not less than five or six free evacuations of the bowels are secured during each of two consecutive days.

On the third or fourth day of treatment the following tablet is to be given at intervals of one and two hours:

NUMBER TWO.

Podophyllum resin,	1–960 grain.
Mercurous chloride, mild,	1–16 grain.
Guaiacol carbonate,	1–4 grain.
Menthol,	1–16 grain.
Thymol,	1–16 grain.
Eucalyptol,	q. s.

This formula, and also formula number one, should be given as freely as possible at first, then gradually reducing the size and frequency of the doses, the object being to so regulate them as to allow the movements of the bowels to become less and less frequent until the temperature has dropped to normal, when the movements will have been reduced to one or two each day. Should symptoms of ptyalism (a wholly unnecessary complication) supervene, the tablets should be promptly discontinued for a day or two, and, if necessary, sodium or potassium chlorate given, returning as soon as possible to formulas numbers one and two. About the fourth or fifth day of treatment the soft elastic capsules should be commenced:

NUMBER THREE.

Guaiacol carbonate,	3 grains.
Thymol,	1 grain.
Menthol,	1–2 grain.
Eucalyptol,	5 minims.

One capsule to be given every three or four hours, alternating with the tablets.

During all the course of treatment the patient must wash down each dose of medicine with large draughts of distilled or sterilized water, or, if indicated, some good laxative or diuretic mineral water.

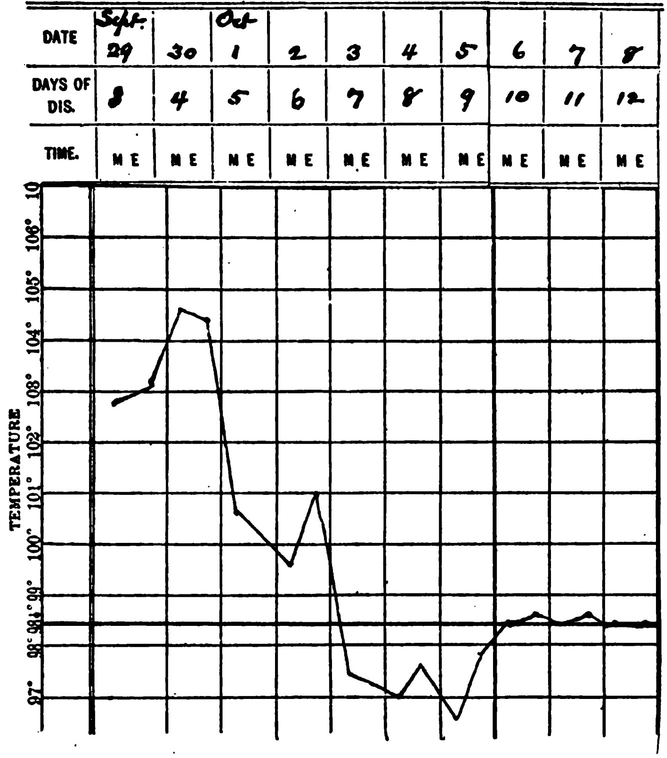
Note the physiological actions of the medicines used by **Doctor Woodbridge**: Podophyllum is a slow cathartic and in minute doses a laxative which acts upon the liver and intestinal glands, increasing secretion. **Neuberger** concludes, after a series of experiments, that it acts simply as an irritant, exciting catharsis in its elimination by the intestinal glands.

The physiological action of calomel is well known. It affects principally the excretory glands in the lower part of the small intestine and the upper part of the colon. It is supposed that calomel is changed by the action of the hydrochloric acid of the stomach into the corrosive chloride, when it acts as an hepatic stimulant and chologogue. Calomel acts also as a stimulant to the kidneys, and is useful in increasing the diuretic action of such drugs as squills and digitalis. It has an antiseptic action in the intestines, retarding decomposition, which power it retains in the presence of fecal matter which accounts for the beneficial action of this drug in intestinal diseases due to microorganisms. It is claimed (**Langlois**) that calomel limits the absorptive activity of the intestinal wall.

In guaiacol carbonate we have an excellent antiseptic. Wood-tar creosote is chiefly composed of guaiacol, creosol, menthol-creosol, and phlorol, the guaiacol being present in the proportion of sixty to ninety per cent. Guaiacol is colorless, sparingly soluble in water, freely soluble in ether and alcohol and is more agreeable to the taste and better borne than creosote. It has a special sedative action upon the nerves of the stomach, allays irritability and nausea, and checks fermentation in stomach and intestine. It is useful in diarrhea dependent upon bacterial fermentative processes in the intestines, and its action as an antipyretic is more rapid than that of sulphate of quinine (ROBILLIARD). It is a powerful antipyretic (FRIEDENWALD and HAYLEN) when locally applied, and is readily absorbed by the skin. It should be mixed with equal parts of glycerine and pure olive oil and painted on the skin over an area not to exceed twenty square inches; this to be covered with an impermeable dressing.

Menthol, a crystalline solid, with a sharp and pungent taste, has decided germicidal properties and is recommended as an intestinal antiseptic, though it is more frequently used as a topical remedy.

No. 2



Eucalyptol excites the flow of saliva, produces a sense of warmth in the stomach and acts as a carminative and antiseptic. The gastric and intestinal juices are increased by it; it is well borne by the stomach, and is decomposed in the intestine into hydrochloric acid. The excretion of urea is augmented, and the action of the heart increased by eucalyptol which is also an efficient antiseptic, minute quantities preventing putrefaction, though not checking the action of the digestive ferments. SHOEMAKER, in his latest work on materia medica and therapeutics, says "Eucalyptol exerts a decided antiseptic action upon the bowel; it is appropriate in the treatment of diseases involving the intestine, such as enteritis, typhoid fever, the green diarrhea of children, et cetera."

Thymol is a valuable antiseptic. It is less powerful than carbolic acid, but is less poisonous and much less irritating. It is a powerful disinfectant and at the same time lowers arterial tension, lessens reflex action, and reduces temperature.

The first action of these remedies is to cause a flow of bile into the intestine, which emulsifies neutral fats, promotes osmosis, excites contraction of the muscular coats of the intestine, and prevents putrefactive decomposition of the intestinal contents (LANGLOIS).

The stools of typhoid fever are fetid, ammoniacal, and alkaline in reaction, usually liquid, of a yellow-ochre color, often pultaceous, frothy, and so light as to float upon water, exhibiting bacterial fermentation (PEPPER and MURCHISON). BARTLETT compares them to new cider, others to pea soup in color and consistency.

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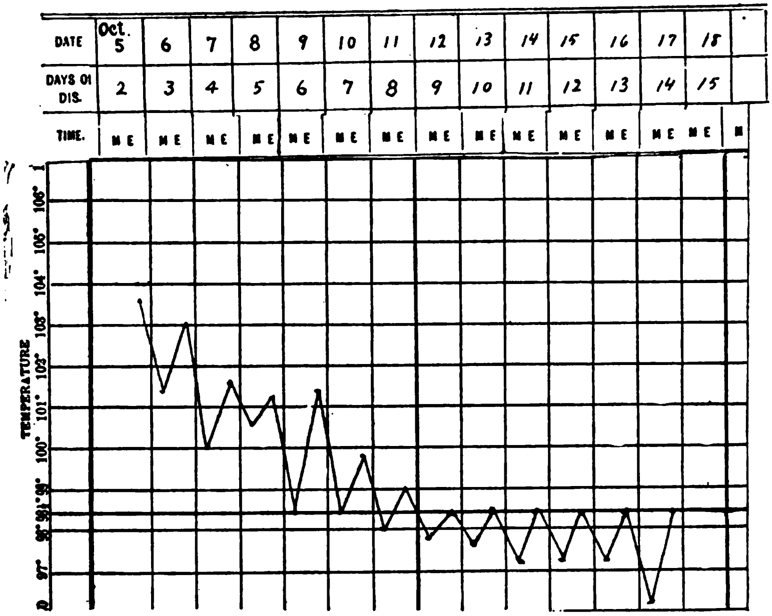
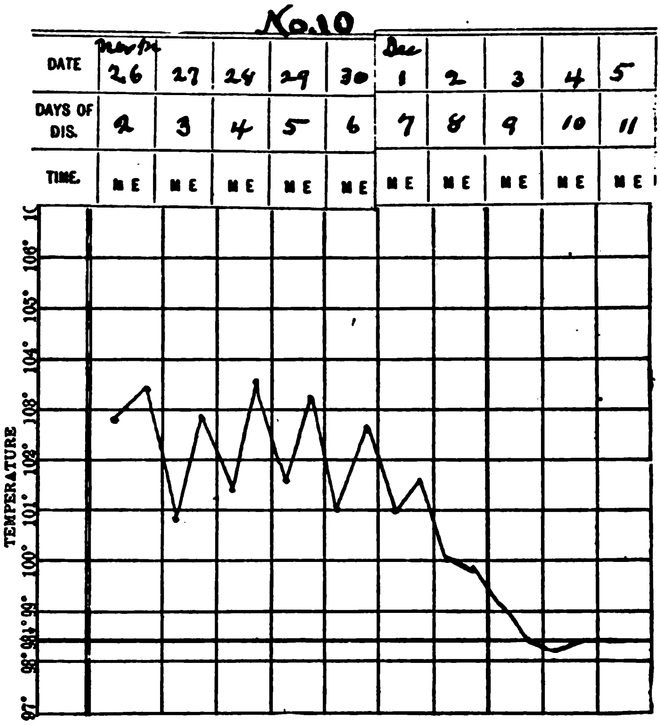


It is to be regretted that the stools of the cases that we will later describe were not examined for the EBERTH bacillus, but the clinical phenomena were sufficiently marked to justify a diagnosis, which was based upon the following symptoms: All the cases but three were sick from one to three weeks before entering the hospital; tympanites, with pain and gurgling in right iliac fossa; furred and coated tongue, with musty and semicadaveric odor from mouth, the edges and tips of tongue were usually red in the beginning, while later that organ cleared off and became red, glazed, dry, or fissured, or it became dry with the formation of brownish crusts, the gums and teeth showing sordes; diarrhea usually developed at the end of the first week, varying from a light yellow-ochre and extremely offensive, to a dark bloody or even blackish appearance; enlargement of the spleen, with tenderness on pressure. Most of these symptoms were noted on the first examination in nearly all the cases. Rose spots over lower part of thorax and chest were present in all but one case and were looked upon as the final proof of the typhoid state.

In the care of the cases of typhoid fever during 1893, the antipyretics acetanilid and phenacetin were given when the temperature rose to 102.5° or 103°. Salol was also given for its carbolic acid antifermentative effect in the intestinal tube. The former antipyretics, even in small doses, produced great depression of the heart, and the longer they were continued the more susceptible were the patients to the depressant action, with a consequent lessening of the antipyretic effect.

Plunge baths were given an effectual trial, but they did not produce the brilliant results claimed by **Brand**. It is so laborious a method that it seemed impracticable, tiring out the nurses and attendants, to say nothing of the exhaustion of the patients. We have had better results from sponging when the temperature has been 103° or over. Sponging with alcohol and water has been used with the **Woodbridge** method, and has proved successful, relieving patients without causing the chills or cyanosis that so frequently followed the plunge bath.

No. 10



The first series of charts, numbered fourteen, sixteen, and eighteen chronicle the fever curve in cases that were treated by bathing and antipyretics with the one aim uppermost—to reduce the temperature. The average duration of fever in these cases was sixty-one days, as against thirteen and seven-eighths days by the **Woodbridge** method.

By reference to chart number fourteen it will be observed that the fever persisted for ninety days. It was a severe continued fever. On the twenty-second day the morning temperature touched normal, only to rise by evening to 103.6°. Seven days thereafter it fell again, and on the thirtieth day went one degree below normal, but soon rose again, and continued above normal with irregular rise and fall for many days before reaching and remaining at the normal point. Plunge baths and salol and acetanilid (three grains of each) internally was the chief medication, five or six such doses in each twenty-four hours. Rarely was the temperature reduced more than one or one and a half degrees after the bath, and it soon rose again. The pulse was weak and compressible, ranging between 113 and 136. Stimulants were given every two or three hours during the course of the disease. Forty-five plunge baths were given—or whenever the temperature reached 102.5° the patients were immersed in water of about 90°, which was rapidly cooled to 65°.

No. 13.

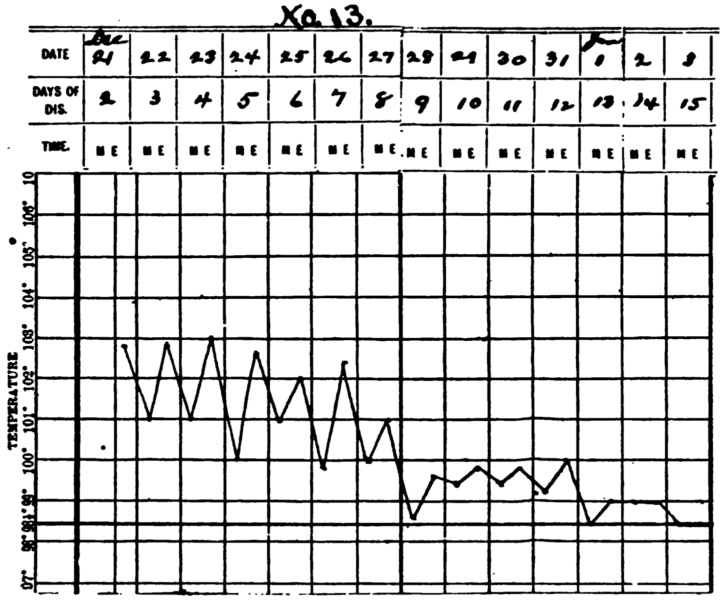


Chart number sixteen shows a continued fever of forty-seven days, the morning temperature not reaching normal until the thirty-fourth day. Twelve days after the chart closes, the temperature remained between 100° and 101°, or forty-six days of continued fever and a total hospital detention of over sixty days.

Case eighteen was twenty-three days in hospital before temperature reached normal, then a marked relapse occurred and twenty-one days more of fever followed before normal temperature was reached.

Plates numbers fourteen, sixteen, and eighteen show the long curves of typhoid fever when antipyretics and the Brand methods were used to reduce the temperature. Compare these plates with those that follow, showing the abortive treatment of typhoid by the Woodbridge method.

I will now call your attention to a series of thirteen cases that were under my care from October 1 to December 31, 1895, in which the Woodbridge method was used exclusively. In all the cases it proved satisfactory; shortening the disease and lowering the temperature.

In all cases when the temperature reached 103° a sponge bath was ordered, as it gave relief and quieted restless patients. These were rarely required after the fourth or fifth day, because of the rapid reduction of the fever.

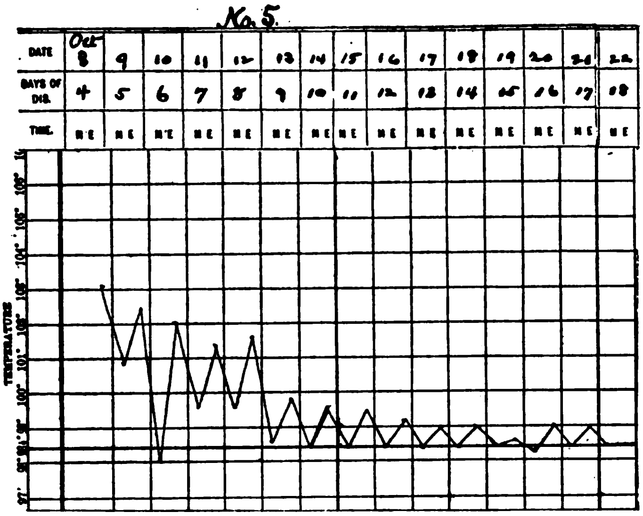
These thirteen cases are reported very briefly, as they were all treated similarly—that is, by the WOODBRIDGE method. The cases are given as they appeared in the hospital. They are not selected, but are all the cases that came under my care while I was on duty.

CASE NUMBER.	CONTINUANCE OF FEVER.
1	17 days.
2	5 days.
3	23 days.
4	7 days.
5	13 days.
6	12 days.
7	14 days.
8	15 days.
9	15 days.
10	8 days.
11	16 days.
12	18 days.
13	12 days.
	176 days.

It will thus be seen that the average duration of treatment was thirteen and seven-thirteenths days.

As a fair example of the whole, charts numbers two, four, ten and thirteen are submitted herewith.

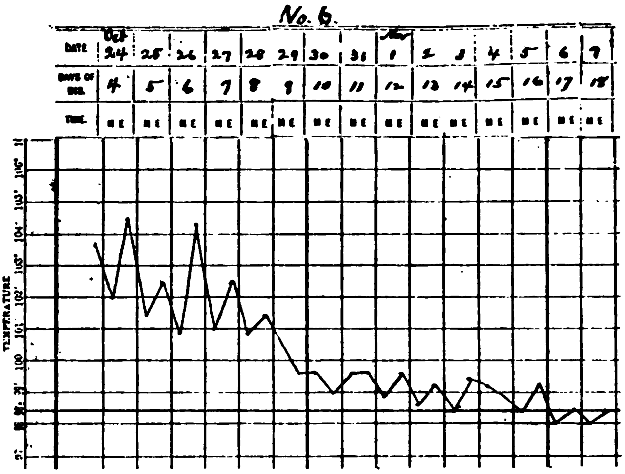
Case number two (see chart) showed a very decided and rapid fall after being under treatment for two days. Temperature was subnormal for three days, after which it remained normal. Patient had been sick three or four days before entering the hospital.



Number three had been recently confined, and it was thought the puerperal state might have affected the fever, which was very high during the first week. It was a bad case from the start, and proved the good effect of the treatment that was being tried—for after the first week the temperature fell and remained below 103°, only touching that point twice during the week and once during the following week. She was very delirious in the first week, and it was thought she might die—in fact we felt that with any other treatment she certainly would have died—but she made a good recovery and was discharged well. Her temperature, October 3, at 8 A. M., was 103°; at 4 P. M., 104.4°; at midnight, 104°; October 4, 8 A. M., 104°; 12 noon, 104.2°; 4 P. M., 105.2°; midnight, 104.4°; October 5, 8 A. M., 103°; midnight, 104.2°; October 6, 2 P. M., 104°; 4 A. M., 103.6°; 12 noon, 104.2°; 4 P. M., 105.8°; 8 P. M. and 12 midnight, 105°; October 7, 4 A. M., 105°; 12 noon, 104°; 4 P. M., 105°; 8 P. M., 105.4°. Five plunge baths, thirteen sponge baths, and three cold packs were given during the week.

Number four was seen early, and the clinical symptoms were plain. The medicines acted promptly and with gratifying results, the subnormal temperature lasting one week, with the evening temperature rising to normal. This peculiarity is especially to be noted.

No. 6.



Number five was another "aborted case"—after the fourth day the temperature was normal and it did not rise again above 100°. This case was practically well in five days, though the evening temperature rose one-half a degree above normal for six days with morning temperature normal.

Number six showed the evening temperature on the fourth day falling instead of rising, and by the thirteenth day remaining at normal.

Number seven entered the hospital in a collapsed condition, having been sick about seven days. On the fifth day of treatment the temperature fell, remaining below 101° for two days, and then falling to normal in the morning and 100° in the evening for five or six days, when it remained at normal and convalescence progressed rapidly.

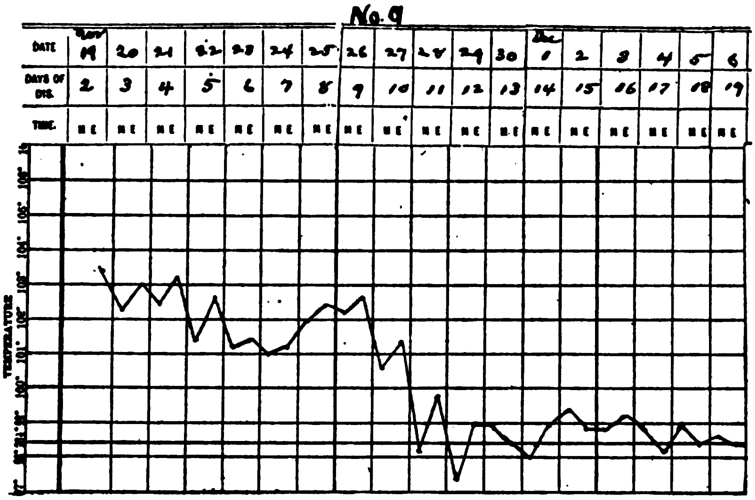
Number eight showed marked hebetude from the beginning, and had to be roused for every dose of medicine or for food; the temperature never rose above 102°. He made a good recovery, the temperature reaching normal in fifteen days. He had several hemorrhages during the fever and several successive crops of rose spots.

Number nine suffered a relapse after having been up for a week, the primary attack having lasted three weeks. The former attack had not been treated with the WOODBRIDGE method. The temperature did not show a marked decline until the seventh day. It would probably have remained normal on the ninth or tenth day, but the gums had become soft and painful—due to too much mercury.

Number ten was seen in the beginning. Patient had been feeling miserably for several days, but was not sick enough to go to bed. The diagnosis having been early established the WOODBRIDGE method was pushed to see if the case could be aborted. There was a good deal of tenderness over iliac fossa, with gurgling and tympanites. The afternoon temperature kept falling from half a degree to a full degree each day after the patient had been thoroughly medicated. On the eighth day the temperature was normal, appetite returned, tongue cleared, and abdominal symptoms disappeared. The rose spots persisted for seven or ten days after the disappearance of the fever. The gums were slightly "touched" because of old specific disease.

Number eleven: On the eighth day the temperature fell from 102.6° to 100° with a degree more for evening elevation. This case was the only one that showed no rose spots. The spleen was enlarged and tender. She had indigestion after taking the medicines, but made a good recovery in sixteen days.

No. 9



Number twelve showed marked elevation and fall; on the eleventh day the temperature was much reduced, and on the eighteenth day was normal, where it remained.

Number thirteen was a typical case. On the sixth day there was a marked fall in temperature which would probably have remained normal had the patient suffered from ptyalism. Notwithstanding the salivation, the typhoid symptoms improved steadily, and he made a rapid recovery.

In conclusion I wish to say that in my hands this treatment has worked most satisfactorily, shortening, aborting and greatly modifying the severe cases of typhoid fever. There is no tendency to relapse, no unfavorable complications arise, and the bad effect of prolonged stimulation is done away with. I found the plan a most successful one, and heartily recommend its use to my fellow practitioners.

NOTE.—PARKE, DAVIS & COMPANY, Detroit, Michigan, furnish prescriptions numbers one and two in tablet form and number three in soft elastic capsules, which are easy to administer, accurate, and reliable.

Since the writing of this paper, PARKE, DAVIS & COMPANY have prepared, under the personal supervision of DOCTOR WOODBRIDGE, two formulas for children under ten years of age, in addition to the three formulas that constitute the treatment for adults.

ONE OF THE LOST ARTS OF GYNECOLOGY.*

BY EDWARD W. JENKS, M. D., DETROIT, MICHIGAN.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

IN the world's history we find that it has not been uncommon for knowledge to be for a time lost, and again found or rediscovered. This is true in medicine no less than in collateral branches of science, but it seems to have been more common in what might be termed the art of medicine than its scientific portion.

The lessons taught by history are not always comprehended nor remembered, and that is why mistakes of the past repeat themselves. We have been taught by medical history that errors of observation and judgment have ever accompanied the truth, and that its progress has been marked with dazzling delusions. Errors are never suddenly abjured. One is slow to renounce old beliefs, but time is an element that frequently works great changes. It may be a little humiliating to look back upon discarded follies, but there will sometimes be great advantage in retrospection. We profit more by our own mistakes than by those of others, but we should also attempt to gain knowledge through the history of the past and the successes and errors of others.

There can be no question that specialism in medicine has been the means of bringing it to its present status, but as there can be no reform affected or any advancement in science or art without some attendant evils, so gynecology with all its present greatness has its accompanying evils. MADAME ROLAND once said: "Liberty! Liberty! how many crimes are committed in thy name?" Gynecologists may well exclaim, "How many surgical sins have been perpetrated in the name of gynecology!" It is not that in the name of liberty the human race has not been benefited, nor that gynecology has not lengthened out human life and rendered it more endurable, nor has it been the properly trained gynecologist that has done and is now doing harm, but it is in the name of gynecology that the tyro, the inefficient or the imperfectly trained physician or surgeon has often brought discredit upon a specialty that has to deal with the dearest interests of the community.

It cannot be forgotten by the conscientious observer that the present state of gynecological knowledge has not been altogether the result of sudden development, but rather the product of slow accretion. The student of medical history, however, finds it often repeating itself, and the revival of some old fact or theory is modernized with additions, and given to the world as something entirely new.

Let me not be misunderstood. No one admires more than I do the pushing aggressiveness of many of the very class I have alluded to; but the belief that true conservatism, based on thorough knowledge, should prevail has prompted me to write this plainly. Conservatism, as applied to gynecological surgery, is a term sometimes used as an excuse for ignorance or inefficiency, but it is only in its true sense that it is here used.

It is neither my desire nor design to deprecate the value of surgical gynecology. Since my first ovariotomy, in 1868, I have been constantly engaged in the surgical work of this specialty, therefore it is from the standpoint of the surgeon rather than the physician that the theme I have selected is considered. If what I say concerning gynecological errors can be looked upon as a criticism, then I may be among the criticised. It seems to me, from the gynecologist himself, no more appropriate plea can emanate than one which demands that knowledge in his specialty shall be limited alone by the most scientific attainments and cultivation of the highest art.

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*Read before the WAYNE COUNTY MEDICAL SOCIETY.

With the advance of medical knowledge and the progress in specialites, diagnosis, the most important branch in the consideration of disease, is constantly undergoing a refining process. That it should ever reach perfection and become an exact science we cannot expect, unless at some future day we should come to a full understanding of how and why a cell lives, propagates and dies. That is to compass the mysteries of life and death.

While diagnosis, and the next most important branch, treatment, cannot be studied too diligently, still in the pursuance of these, another branch is sometimes forgotten. Prognosis is in danger of becoming a lost art. This applies more directly to surgical than to medical gynecology. In this connection I take prognosis in its widest sense, that is, both immediate and remote. The majority of operative cases recover from the operation, and gain either complete or partial relief. But there is a goodly minority which either do not recover from the operation, or are not benefited at all, perhaps made worse; or, having received partial relief, lose more in the end than they have gained. I do not deprecate operating, for that would be to descry my own work and that of others higher in authority than I. I do, however, deprecate operating at all times. A few earnest and inquiring gynecological surgeons follow their operative cases for several years, if possible. But what proportion of the whole number of gynecologists consider that necessary? If the operation is one for the removal of any of the pelvic organs, then I hold that the remote prognosis is of more importance than the immediate. To illustrate this, I will cite a case, a parallel to which you have all seen. I had treated a young woman for enlarged and tender ovaries at intervals for about two years prior to her marriage. After that event the pelvic trouble was aggravated, and in such a manner that I suspected a pyosalpinx had been superimposed upon the original salpingitis and ovaritis. But in spite of this I hoped she might become pregnant. However, when two years had passed and she had not become pregnant, and the periods of pelvic pain had increased both in frequency and severity, I lost hope. As she had had no pronounced attacks of peritonitis, and I could feel no fluctuation in the tubes, I had previously not entertained the idea of operation except as a future possibility. But at this time as she had not become pregnant, suffered considerable pain, and had some domestic unhappiness on account of the marital relations, the subject of operation was broached as a future procedure in case other means failed. I am aware that many operators would consider this unwarranted temporizing, and would have operated to relieve her pain a year before. But a physician must sometimes consider other conditions than the purely physical. Early in the third year of this patient's married life she became pregnant. Her labor was perfectly normal and without a particle of injury to cervix or perineum. But in spite of this and the aseptic precautions she had a septic temperature, 101° Fahrenheit being the highest, for about two weeks, showing that there had been some infection from the tubes. A year and a half later she had another child. She has more or less ovarian pain at times, but as her circumstances are such that she can take good care of herself she gets on fairly well. She has what more than compensates not a few women for many of the ills of life—her children.

Among the former methods of treatment of pelvic abscess which have deservedly fallen into disuse, such as puncture per vaginam, or per rectum, there is one which still merits remembrance and occasional use, namely, vaginal incision and drainage. This mode is only applicable to a few cases in which there is a large abscess complicated by many old adhesions. This leaving more or less diseased tissue which should be removed is certainly not an ideal method, and in the eyes of the clean-cut aseptic surgeon must be an offense to the best surgery. But the ideal must sometimes yield to the expedient. It is better to have a live patient than a dead one. In the last two years two papers, by DOCTOR CLEMENT CLEVELAND and DOCTOR T. J. WATKINS respectively set forth the advantages of this method for a small number of selected cases. I can recall several cases treated, now more than twenty years ago, before the pathology of pelvic abscess was as thoroughly understood as at present, in each of which there was a large abscess which I drained per vaginam, and the patients recovered.

One of these, a woman of about thirty-five, married, the mother of two children, is a notable case. When she came under my care, the whole pelvis was so completely and seriously involved that I doubt, if even in these days of skillful and aseptic surgery she could have survived the shock of so difficult an abdominal operation as the pathological conditions would have required. Her recovery was slow but complete, and she has not had a pelvic symptom in more than fifteen years.

According to ROUTH the mortality of cases of diseased adnexa, not operated upon, varies from nil to four per cent., while that of cases operated upon by abdominal section varies from two and one-half per cent. to twelve and one-tenth per cent. What do these figures demonstrate? That all cases should be left to nature? Not at all. Patients are not to be allowed to wear out lives of suffering because some desperate cases die, or ill-chosen methods are applied. But they do demonstrate not only the value of a larger discrimination in the diagnosis and treatment of this class of affections, but also the value of prognosis—a prognosis that is not the cheerful prophesying of a hopeful rosy mind, but one based upon the truths taught by the past. Although the majority of the more experienced and better class of operators hold that cases of diseased adnexa unaccompanied by tumor or pus should rarely be subjected to abdominal section for removal of the tubes and ovaries, there are still tyros in abdominal surgery, or those with narrow knowledge and little conscience who make the radical operation for simple catarrhal salpingitis or less.

LECTURES.

THE SURGICAL RELATIONS OF THE SYMPATHETIC NERVOUS SYSTEM.*

BY WILLIAM F. METCALF, M. D., DETROIT, MICHIGAN.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

THE sympathetic-nerve system, with the solar plexus as its centre, controls the calibre of the blood-vessels and the rhythm of the digestive, excretive and reproductive organs. It therefore presides over nutrition from the time of conception until death.

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*A report of cases and abstract of four lectures with clinical demonstrations, delivered at the DETROIT SANITARIUM, February 3, 4, 5, and 6, 1896.

The newer physiology must embrace psychology. The functions of the force, which moves over both nerve systems must be differentiated. Both are closely related—laughter improves the secretions, grief depresses, passion causes jaundice.

During this clinic, I shall endeavor by the aid of this chart, to point out the relation of the pathology to the symptoms in the various cases. I shall employ the surgical methods developed by the newer thought upon the sympathetic. Prediction verifies a science. Astronomers are now preparing to go to Asia next year to observe a total eclipse of the sun. Experiments in chemistry verify predictions. The cerebro-spinal system of this patient is paralyzed by chloroform. I may therefore wound the skin, or make impingement upon the endings of the nerves supplying the external sphincter ani or any other voluntary muscle without eliciting any organic manifestation. The function of the internal sphincter ani being controlled by the sympathetic, if I make the same impingement upon its nerve endings we should observe the effects upon different parts of the organism, as the conductivity of this system is unaffected by the amount of chloroform necessary to narcotize the patient. I make these predictions. I now dilate the external sphincter with care because of its proximity to the internal. You observe no effect upon the patient. I now pass the speculum one inch farther and dilate the internal sphincter. You observe an instantaneous dilatation of the pupil, also deepened respirations. All involuntary muscle-fibre is influenced. The capillaries are dilated everywhere. The impact upon the nerve endings has followed the fibres as I trace them upon this chart along the sympathetic chain to the pulmonary plexus and to the iris. It is fair to say that it had its influence upon every sympathetic ganglion in the body. Since the ganglia which preside over the action of the heart are larger than those which govern any other organ, this viscus is more likely to be disturbed in its rhythm by ligatures or crushing clamps upon distant nerve-endings of the system of nutrition. Thus we have one explanation of shock. The same theory explains disturbed peristalsis of the intestine, disturbed rhythm of the liver or of other viscus.

Pathology in any organ may disturb the nutrition of the whole body or of some distant organ. Systemic disturbance is often in inverse ratio to the degree of local pathologic lesion apparent. Thus in mumps when the swelling subsides in the parotid glands the temperature may reach 106° before much tumefaction appears in the testes. In cases in which the cervix uteri is denuded of its epithelium, its hypersensitive nerve endings exposed, we generally find less systemic disorder than is found in cases in which the laceration is apparently healed but filled in with cicatrix covered by epithelium.

All surgeons have not yet learned to respect the nerve-system of nutrition. All have ceased to ligate cerebro-spinal nerves, because their language—pain—is understood by everyone; the sympathetic, however, is ruthlessly attacked, because its language—the harmonious, rhythmic functionating of vital organs—has not yet been translated for science. In all operations I shall endeavor to pay as much respect to the sympathetic as to the cerebro-spinal.

Nutrition depends upon the proper supply of blood reaching every organ. This depends upon the integrity of the sympathetic nerve system. Irritation in one part may cause contraction of capillaries in a distant part. Long continued, a natural consequence is their dilatation, thus congestion and inflammation may result. Ulceration of the duodenum is found in extensive burns of the skin.

The labors of the bacteriologist have taught us the importance of surgical cleanliness, but too little attention is being given to the resisting power of the tissues to the invasion of microorganisms; the nutrition of tissue is often impaired by the needless use of ligature, clamp or cautery, leaving it an easy prey to the lurking germ.

Whether to remove pathologic pelvic structures through the vaginal passage or by celiotomy is the leading question presented to gynecologists today. In abdominal section the technique has been so much improved during the last five years that the mortality has been greatly reduced. The mortality is an important question, but no less important is the subsequent health of the patients. Operators in this country are fond of circulating long lists of recoveries from operations but apparently have made little effort to report the condition of the general health of the patients subsequently. LANDAU reports from sixty to seventy per cent. of cures. SCHANTA reports eighty per cent.

French surgeons prefer the vaginal route and their statistics show a low mortality, yet I consider their technique faulty. Inflammatory diseases of the uterine appendages being always secondary to endometritis the removal of the uterus is a logical procedure. In suitable cases the advantages of the vaginal method by dissection as compared with operation by abdominal section are: (1) Dangers of hernia and of intestinal adhesions to abdominal scar are eliminated; (2) the septic uterus is not left to infect the peritoneum and to disturb reflexly the organism; (3) less wounded surface for intestinal adhesions; (4) drainage is perfect. This is important where microorganisms infect the periuterine tissue; (5) less danger of shock; (6) no danger of concealed hemorrhage; (7) less danger of peritonitis; (8) less pain; (9) convalescence more rapid; (10) subsequent health of patients is better. An objection to the method is that in some cases it is more difficult of performance than abdominal section. I think it especially applicable where the periuterine tissue is infiltrated with pus, even in those cases in which it might be found necessary either to complete the operation by celiotomy or to leave in, some of the necrosing tissue, because of the perfect drainage afforded. In some of these cases because of the subperitoneal, inflammatory exudate it is not necessary to enter the abdominal cavity.

Patients frequently suffer from shock after the removal of the uterine appendages for degeneration of the ovaries, the probable explanation being that ligatures were put upon tissue, the conductivity of the nerves of which was not impaired by inflammatory exudate.

Thorough dilatation of the cervical canal, with curetting and washing of the endometrum is less dangerous than passing a probe through a constricted os into a septic uterus.

The condition of everything is improved by functionating. The natural dilatation produced by child-bearing improves the capillary circulation. Adverse conditions in the social body prevent the functionating of certain women in this respect. If you wish to read the result turn to the book of life and read the appearance of almost any woman past the age of thirty, who has never been pregnant, compare her with her matronly, married sister, note the malnutrition of her skin, the defective circulation in her hands and feet, her constipation. Occasionally she manifests peculiarities of mind, but one cannot speak freely of minds without giving offense since psychology is not yet a science. I do not wish you to infer that I think this the only means of dilating the capillaries. They may be dilated by drugs, cold baths, cold spinal compresses, massage, electricity and good-cheer, but a more decided permanent effect may be had by removing irritation from nerve endings. If you take such a case and free the clitoris from adhesions, if such exist, dilate the cervical canal, curette, wash and pack the uterus (the dilatation should be done by finely graded sounds, and carried to the point where no resistance is felt at the internal os) if the condition of the endometrium indicates packing, clean out the rectum, which will be found to be a cesspool if it be abnormal. As a reward you will find in a few days, warm extremities, improved color, improved nutrition and in some cases exfoliation of the epidermis, and you may find that in a year she will rival her sister in energy and sprightliness. But again do not mistake me, I do not undervalue other therapeutic measures. I have invited you here simply to demonstrate the relation of gynecology and rectal surgery to the organism. I wish also to emphasize the fact that in chronic cases thorough examination of the whole body is imperative. Those who think the menopause will relieve reflex disturbances are generally in error.

Where the cervix uteri is lacerated all pathologic tissue should be removed. The tear is often invisible, being at the internal os and filled up with cicatrix. In these cases we frequently find great systemic trouble. This condition may be ascertained by palpating the tissue against a sound passed into the cervical canal. If doubt then exists the cervix may be slit open. This exploratory incision is justifiable and does no harm if it be properly repaired. With care dissect the cicatricial plug out from beneath the circular artery. Cutting this artery is not a serious accident, but impairs temporarily the local circulation. As sutures in this operation I use silkworm-gut with shot. Absorptive animal tendon should not be used. Its medication is destroyed by the douche-water, leaving it defenseless against the attacks of microorganisms in abnormal vaginal secretions. All irritations should be removed from the sexual system. Perversion of the sexual function or sensuality is a source of great nerve waste. It is synonymous with unmanliness, effeminacy and weakness. Children are taught how to wash and dress and walk and eat but all that many of them learn of the sexual system is by hearsay—it may be the product of the obscene mind of some diseased associate. Refinement, integrity, a strong mentality, means a normal sexuality. Anything which can erect a penis—a full bladder, a tight foreskin, an irritable urethra, rectal papillæ, hemorrhoids, fissures, et cetera, may cause sensual thought and disturb the mental function, while upon the other hand, sensual thoughts, and unsatisfied desires may cause irritation of the urethra, frequent micturition, congestion of the prostate and seminal emissions.

Sexuality is the product of a healthy mind. It is the highest expression of love and the instigator of all advance. It is the poetry of all creation. Its perversion—sensuality—is at once a form and a product of disease.

Reetal pathology may cause vesicle irritation and *vice versa*, not by the migration of microbes through the healthy tissue, as some microbic enthusiasts have said, but by transmission of the irritation through the medium of the hypogastric plexus. Why is the use of a catheter necessitated after a rectal operation?

In "olden times" wounds and various pathological conditions were treated by the use of caustics and cauteries and the injecting of irritating fluids and by other barbarous methods. We find these ancient methods practiced yet, to some extent, by some surgeons who have to deal with abnormalities of the rectum. The rectum is not foreign to the organism and should not be thus treated. The organism has been crying out for centuries, in the language of the sympathetic, to have these evils redressed. Shall we, as scientific men, close our eyes to these appeals? They are written large, everywhere—a cold dying skin, starved internal organs out of tune, constipation, tympanites, nausea, sleeplessness, weariness, insanity; this is sometimes the language of a diseased or ill-treated rectum. Some gynecologists who teach the effects of genito-urinary irritation upon nutrition, ignore the rectum. I have seen some of the most noted gynecologists in Europe and in this country do minor surgery upon the genital tract, leaving untouched a horribly diseased rectum.

The arteries of the rectum lie between the muscles and the mucous membrane and run vertically toward the anus. The capillaries carry the blood into a network of veins, which through the inferior mesenteric is conveyed to the portal circulation. There being no valves in these veins, the weight of the column of blood, especially after dilatation begins, is a probable factor in the production of hemorrhoids. Constriction of the sphincter is a very important factor, also the sedentary occupation, individual structural weakness and disease of the genito-urinary tract. "Piles" of which patients are conscious, may injure nutrition much less than those farther up, supplied by the sympathetic. Papillæ, polyps, and various villous tumors and other rectal abnormalities, not only disturb nutrition but cause an undue constriction of the sphincter, thus favoring the formation of hemorrhoids. The constriction of rectal tissue en masse, causing its necrosis and removal by suppuration, is objectionable. The sewing of the mucous membrane together after the removal of the hemorrhoidal mass is unnecessary. If properly done, if strips of membrane be left as grafts they will extend across the denuded surface in five days. Crushing tissues by clamp favors sepsis, by reducing the vitality of the immediate part. Any method which causes suppuration or necessitates granulation in the rectum, induces a long and tedious convalescence. A clean dissection with a clean instrument, twisting or ligating only the spurting arteries, is ideally surgical. Where the hemorrhoids extend above the internal sphincter we usually find much redundant tissue and the most satisfactory operation is to pull down the membrane with T-forceps, after thoroughly dilating the sphincters, and amputate it at the junction of the diseased with the healthy membrane, dissecting downward and severing its connection at the skin margin. The healthy membrane is then pulled down from above and after its longitudinal fibres are cut to prevent its being drawn upward, it is stitched to the skin, and the wound dried and sealed with collodion. Subsequent dilatations may be required. In every case of chronic digestive trouble which I have examined, I have found rectal pathologic conditions.

The expression or publication of a basic principle in surgery, as in any other science, modifies all methods. True criticism never retards progress; it is the atmosphere most congenial to the development of truth. What is true needs no editorial comments, needs no defense. It requires only reporting in its application to life, but illogical exaggerated criticism, instigated by ignorance or personal jealousy and expressed to unscientific people, may retard the development of any science. Charges of mutilation are made, that organs are unnecessarily sacrificed. Those who make these charges are usually men through whose neglect many cases come to the surgeon's table. They leave unrepaired the freshly lacerated perineum. They fail to examine primiparæ at the completion of involution to repair if necessary the cervix uteri. They do not believe in curetting under chloroform a diseased endometrium to protect a threatened tube or ovary. Theirs is a murderous conservatism, born of ignorance of physiology and of surgical principles.

Conservatism in gynecology is doing all that is necessary to correct wounds and abnormalities in the genital tract as soon as they are discovered, and the removal of those organs, the pathology of which is irremediable, the element of danger, of course, always being considered.

* * *

Upon the seventeen cases brought before the class the following operations were done:

Three vaginal hystero-oophorectomies.
Eleven rectal operations.
Two trachelorrhaphies.
Nine curettments.
Five circumcisions.
One kidney-fixation.

In all these operations only two ligatures and no clamps nor forceps were left in place. All the patients recovered from operation as the following report shows:

* * *

CASE I.—Mrs. B., aged thirty-seven. Has never been healthy. Has always suffered much at menstrual epoch, which began at seventeen, since which time she has been constipated. She was married at twenty. Has had two children and one miscarriage. Has had constant soreness across pelvic region, with much severe pain in left ovarian region for ten years. Gives history of four severe attacks of pelvic inflammation. Has been in bed nearly all the time during the past year.

On October 18, 1895, I curetted the uterus, removed the cicatrix from the cervix and large masses of internal hemorrhoids from the rectum. At that time she was much more emaciated than she is at present and was able to retain and digest very little food. She has since gained much in weight and strength, but the pain in the pelvic region and much tympanites remain.

On February 3 the uterus, tubes, ovaries and a number of small pedicled cysts of the broad ligament were removed by dissection, no clamps nor ligatures being needed. The right ovary contained many small cysts, the left formed a cyst about six inches in circumference. The operation was performed at 10:30 A. M. At 8:30 P. M. the temperature was 100.2° and pulse 88. The highest temperature, 104°, presented on the third day, with a pulse of 103. The highest pulse-rate, 120, with a temperature of 101° presented on the sixth day. The tampon of wool covered with silk to lessen capillary oozing was removed on the second day. Douches of saturated boracic acid solution were then given twice a day. These with an occasional bichloride douche 1–8000 have been continued to the present time. There were no symptoms at any time of peritonitis or sepsis.

The fever has been persistent ranging from 99° to 102° until the 9th of March, since which time her temperature has been normal. I attributed the fever to absorption of the products of tissue-waste made active by the dilatation of the capillaries due largely to the rectal dilatation, which was done to demonstrate the function of the sympathetic.

I saw her today, March 17, and took the following report: Temperature normal; pulse 80; slight tenderness over regions of ovaries but no pain, no tympanites, bowels regular, appetite fair, digestion good. Considerable soreness of scalp, with an occasional neuralgic pain over left eye was her only complaint. The principal medication has been quinine and sodium salicylate.

* * *

CASE II.—Aged twenty-seven. Has had four children and three miscarriages. Became infected with gonorrhea from her husband. A year ago I performed vaginal hysterectomy for double pyosalpinx. She left the hospital in two weeks. Four weeks later she said she was well, since which time she has been doing her own housework, which is not light, being a farmer's wife. Since her menses began she has been constipated. This has been less obstinate since the hysterectomy, but yet it exists. She is still troubled with cold feet, dyspepsia and tympanites. She has much pain in the back and top of the head, also constant pain across the sacrum.

On February 3 I removed internal hemorrhoids and a small ulcerated surface from rectum and thoroughly stretched and washed sigmoid. She went to her home in the country eleven days after the operation.

I saw her on March 6, at which time she reported: No pain, no dyspepsia, more restful sleep. Her feet were warmer and her bowels moved almost every day without physic. She had had no pain from operation except for a few minutes after waking from the anesthetic, which was instantly relieved by the hot applications to the arms.

* * *

CASE III.—Aged thirty-seven; single. Has severe aching in back and hips during each menstrual period. Leucorrhea became very profuse and annoying about eight years ago. For about seven years she has been troubled with frequent attacks of constipation followed by diarrhea. Her nutrition is good. The circulation in extremities is good. Three years ago an ulcer about the size of a dime appeared upon the left side of the nasal septum. It has remained about the same since, resisting antisyphilitic and other treatment. Lately she is suffering with much pain in the left ovarian region and is tired in the morning.

On February 3 I freed the clitoris, dilated the cervix uteri, curetted and packed the uterus, and removed some small internal hemorrhoids. She left the Sanitarium in a week, and began work in an office the next day.

I saw her on March 13 and found the ulcer in the nose completely healed. She reported: Digestion good, bowels regular and no pain during the last period.

March 20: Menses just over, ulcer in nose looks red and bleeds when touched.

CASE IV.—Aged thirty-three. Has had two children and eight miscarriages. Dyspeptic, nervous and hysterical. Has attempted suicide. Much pain in left ovarian region. Metrorrhagia for three years.

On Tuesday, February 4, I performed vaginal hysterectomy by dissection, leaving two kangaroo ligatures upon the uterine artery which I opened in two places upon the left side. The adhesions were firm and extensive. An abscess on the right side, involving the ovary, contained nearly a half pint of pus. On the left side was a small abscess, the tube being much enlarged and adherent to intestines and to pelvic wall. I succeeded in removing all the tubal and nearly all the necrosed tissue, washing the abscess cavities thoroughly with a saturated solution of boracic acid. Pulse, at close of operation, was normal. The packing was removed in forty-eight hours. For a few hours after operation cold compresses were applied over pelvic region. Bowels were moved on the fifth day. Her highest temperature was 100°, and highest pulse-rate 104; lowest temperature, 98.2°, and lowest pulse 70. She had no anodynes, except a hypodermic of pure water. She sat up on the eleventh day and was taken home on the thirteenth.

March 17: She said her nervousness and pain were gone, and that she was well except for a slight tenderness over the ovarian region.

* * *

CASE V.—Aged thirty. Has always suffered much with menses. Ten months after marriage at the age of twenty-two, frequent attacks of pain in the head and back and faintness began. Had spine cauterized seven times. At twenty-five the first child was born, after which the pain in the spine was much better. For the last five months she has had a chill every night between 10 and 11 o'clock. Pain in the right side began three years ago. She has suffered much from nausea because of it. In assuming certain positions the pain would cease. She has been obstinately constipated for a year. She suffers much from indigestion and is tympanitic. She sleeps poorly, is always tired and suffers much from pain in spine and head.

February 4 I made an incision parallel to the border of the quadratus lumborum muscles, anchored the floating kidney to its place by sutures of kangaroo tendon and left the wound open to heal by granulation. Her menses being on I deferred the other work indicated by the symptoms until the sixteenth, at which time I curetted the uterus, performed trachelorrhaphy, freed the clitoris and removed some internal hemorrhoids. She left the Sanitarium in two weeks.

Report taken March 17: Pain in head and back, and the faintness and chills gone. No suffering at last menstrual period; much less constipated; digestion good; no tympanites; sleeps well. In short she is well except for a slight pain and tenderness in right ovary.

* * *

CASE VI.—Aged thirty-five. She has always been frail. Menses began at sixteen. Has suffered much with neuralgia of the stomach, headache, indigestion, nausea, aching in back and hips, cold hands and feet, and much tympanites. She was married at twenty-eight. Has never been pregnant.

On October 1 I performed vaginal hysterectomy for double pyosalpinx. Found abscess in broad ligament containing nearly a pint of pus. She got up in two weeks and convalesced rapidly. Her general health is much improved but she still suffers with tympanites, indigestion and aching across sacrum.

On February 4 I freed the clitoris and removed some small internal hemorrhoids. She left the Sanitarium in a week.

On March 2 I took the following report from her: Digestion good; circulation in extremities good; no pain in back; no tympanites; sleeps much better and is not tired in the morning.

* * *

CASE VII.—Boy, aged eighteen. At nine he had typhoid fever. Was well since until a year ago when he had an attack of influenza followed by malarial fever. Has not been well since. Frequently symptoms of malaria return. Has much pain in his abdomen. He acts irrationally at times. For hours at a time he will sit stupid and melancholy and will not answer. He is very irritable, crying without provocation and is afraid to stay alone. Appetite fair; bowels irregular; tongue always coated.

On February 4 I performed circumcision and removed some small hemorrhoids and papillæ from rectum. Wounds healed by first intention. He walked home in a week. Instead of being melancholy he became hilarious and turbulent with a tendency to tear and destroy everything. These symptoms continued more or less marked for three weeks, every day, however, showing some symptoms of improvement.

Report taken March 17: Appetite good; bowels regular; tongue clean and apparently in as good mental condition as he ever was, taking an interest in work around home and looking for work outside.

* * *

CASE VIII.—Circumcision in small child. It healed without swelling.

* * *

CASE IX.—Aged thirty-four. Health good until menses began. Dysmenorrhea was so severe from the first as to confine her to bed. Was married at nineteen. Has had two children. Took local treatment and wore a stem-pessary for seven months, nine years ago. Has not been free from pain in ovarian regions for seven years. During this time she has had frequent attacks of pelvic inflammation. Constant mucopurulent discharge from uterus. Had general peritonitis eight weeks ago. Has suffered from headache and constipation since menses began. For several years has been troubled with indigestion, tympanites and cold extremities. Had one miscarriage at eight months. Products of conception remained in the uterus for several days after the death of the child.

On February 5 I performed vaginal hysterectomy. After dissecting to a point above the internal os I was able to turn the fundus uteri through the opening anteriorly, and proceed with the dissection toward the cervix.

Condition found: Metritis and degenerated ovaries. Highest temperature 100.6°; highest pulse 126; lowest temperature 98.5°; lowest pulse 78. She vomited much from the chloroform. Packing removed on the second day. Bowels moved naturally on the fourth day. Pain in stomach severe after removal of packing. Two hypodermic injections of one-eighth grain of morphine were given. She was taken home thirteen days after operation.

I saw her March 17, when she said she was well in every respect and gaining in strength every day.

CASE X.—Aged thirty-eight. On May 26, 1894, I removed a fibroid uterus weighing five pounds. Her recovery was rapid and uneventful. Present condition: Dyspeptic, constipated and tympanitic. Her feet are very hot at times, when she has to sleep with them uncovered. She is frequently greatly annoyed with pricking pains in her legs. At these times she is too nervous to sit or lie still.

On February 5 I removed internal hemorrhoids and remediated minor rectal conditions, thoroughly dilating and washing the sigmoid. She left the Sanitarium in a week.

Report of March 17: Digestion better, but tongue still coated. Heat of feet and nervous attacks have not presented since operation. No tympanites; no pain in legs. Constipation better but not entirely corrected. Sleeps better and is not so tired in the morning.

* * *

CASE XI.—Aged twenty-six. Married four years ago. Had a miscarriage two and one-half years ago. Since, she has had profuse leucorrhea accompanied by intolerable itching at the vaginal entrance; aching on top and back of head and across sacrum; pain and tenderness in both ovarian regions, particularly in the left; frequency of micturition; periods one to three weeks later. She was referred to me as a suitable case for hysterectomy.

By examination under chloroform February 5 I could not find sufficient pathologic change in the uterine appendages to justify their removal. I therefore curetted and packed the uterus, removed several internal hemorrhoids, and ordered cold compresses to the pelvic region. She left the Sanitarium in a week.

I saw her husband March 9. He said that his wife was well; that she had no complaints whatever to make.

* * *

CASE XII.—Circumcision of small boy. Parts healed without swelling.

* * *

CASE XIII.—Aged twenty-six. Has been constipated since menses began at the age of thirteen. Was married at fifteen. Had two miscarriages. After the first she was confined to her bed for five months, having chills and fever. Has not been well since. Has severe pain in back and head, profuse leucorrhea, and much bladder irritation. About a month ago her legs became paralyzed. Feet and legs are always cold. Bowels move involuntarily. Great tympanites. No history of syphilis.

On February 6, upon examination under chloroform, I decided to perform vaginal hysterectomy because of the evidences of metritis and thickening of tubes. Her physician who was present then said he had promised her that hysterectomy would not be done. I therefore curetted and packed the uterus and removed some hemorrhoids and papillæ from the rectum; also a large number of venereal warts, and ordered cold compresses to the pelvic region. She sat up on the seventh day and was taken home on the tenth.

Report given by her physician on March 18: Paralysis of legs no better, but circulation in them is much improved. Bladder irritation and pain in back and head, much improved. Is less tympanitic and has some control of bowels.

* * *

CASE XIV.—Aged twenty-four. Was well except for constipation until two years ago when she had a miscarriage. Since then she has suffered much from headache and indigestion. Three months ago she was delivered of a child at full term. An extensive laceration of the cervix and perineum resulted. The perineum was repaired at the time.

On February 6 I performed curettment, trachelorrhaphy, and removed some internal hemorrhoids. She sat up on the ninth day and went home on the thirteenth.

Report taken March 18: No headache. Circulation in extremities better; digestion good; still slightly constipated but feeling much better.

* * *

Case XV.—Aged forty-one. Suffered only from headache at menstrual periods, which began at fourteen. Was married at twenty-four but has never been pregnant. Has been constipated for eight years. This is gradually becoming more obstinate. She sleeps poorly and is always tired in the morning. Suffers greatly from indigestion, nausea, and tympanites. Feet and hands are always cold.

Operation on February 6: Dilatation, curettment and packing of uterus; removal of internal hemorrhoids. There was slight hemorrhage from the rectum on the sixth day. It came from the vessel in the anterior rectal wall and followed the passage of the syringe-nozzle. She sat up on the ninth day and went to her home in the country on the thirteenth.

I saw her on March 1, when she reported: Digestion good; no nausea nor bloating; hands and feet warm; constipation much better; bowels move every day, but she continues to take each evening a pill containing one-eighth grain each of aloin, podophyllum, nux vomica and belladonna.

* * *

Case XVI.—Male, aged about twenty-eight; a case of prolapsed rectum with much hypertrophied tissue. The hemorrhoidal tissue and membrane were removed from the whole circumference of the rectum, the healthy membrane being brought down and stitched to the skin. Healing occurred by first intention. He left the Sanitarium in two weeks.

Report taken on March 12: Bowels regular and patient well.

* * *

Case XVII.—Circumcision in a boy. Healing without swelling.

* * *

N. B.—In cases in which no mention is made of temperature and pulse, the former did not exceed 99°, and the latter remained practically normal except in cases Number XIV and XV. These two patients were in the same room and both had a temporary rise of temperature, accompanied by pharyngitis and muscular aching from the grippe.

* * *

Note.—I endeavored to impress upon those present the absurdity of treating organs in isolation, the necessity being to study the functionating of each organ in relation to that of other organs. As helps to this the following, among other questions, were given for consideration:

(1) Why is vomiting of pregnancy sometimes relieved by stretching the os uteri?

(2) Why is the cough in chronic bronchitis relieved by the onset of acute arthritis?

(3) Why are cracked nipples cured by douching the uterine cavity?

(4) Why in mumps is the swelling transferred from the parotid glands to the testes?

(5) Why may the removal of an internal hemorrhoid relieve clonus of the orbicularis oculi?

(6) Why may uterine fibroid cause marginal eczema of the nose?

(7) Why does the nursing of the child cause uterine contractions?

(8) Why may a rectal operation necessitate the use of the catheter?

(9) Why does a nasal polypi cause asthma?

(10) Why does the cure of cervical stenosis relieve pudendal eczema?

(11) Why does irritation in the bowels cause itching of the nose or ulceration of the buccal membrane?

(12) Why in catamenial suppression do we find suffusion of the face, giddiness, headache and fever?

(13) Why may injection of glycerine into the cavity of the pregnant uterus produce high temperature and symptoms of collapse?

TRANSACTIONS.

DETROIT ACADEMY OF MEDICINE.

STATED MEETING, JANUARY 14, 1896.

THE PRESIDENT, W. R. CHITTICK, M. D., IN THE CHAIR.
REPORTED BY C. W. HITCHCOCK, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR GEORGE DUFFIELD read a paper entitled "The Treatment of Typhoid Fever, with Reports of Cases." (See page 153.)

DOCTOR L. E. MAIRE: I have had but very little experience with this disease; but I have thought that many cases do as well on no treatment as on many of the advised plans. As a result of experiments, some years ago, I concluded that the wisest plan was to keep the temperature as near to the normal as possible and avoid accidents. I preferred hot sponging to cold baths and found the results equally efficient. I gave but little medication. A great field for study is the proper purification of our water. Prophylaxis is most important.

DOCTOR L. CONNOR: I was especially interested because of the criticism which DOCTOR WOODBRIDGE's treatment early met with. The prevention of the activity of germs in the intestine certainly seems a rational procedure. The records of DOCTOR DUFFIELD's cases would certainly seem to show that the results here were better than in cases treated otherwise. I should like more fully to appreciate the rationale by which these remedies pass the stomach. DOCTOR MAIRE's remarks on prophylaxis are certainly well-timed. I would like to ask as to the source of these cases.

DOCTOR DUFFIELD: Both from the city and the country.

DOCTOR BIDDLE: One point struck me forcibly, namely, the ptyalism in three cases out of thirteen. Such a large per cent. would almost seem to debar the use of such treatment.

Doctor Duffield: Two cases exhibited only spongy gums and one admitted recent specific trouble and treatment.

Doctor Bigg: Physicians cannot hear such a paper without interest. I am glad to note the doctor's success with the so-called Woodrridge treatment. I cannot help approving of what Doctor Maire said as to withholding medication. I want to testify to my satisfaction in the use of betanaphthol as an intestinal antiseptic. It seems remarkable that no exhaustion ensues on the medication here advocated.

Doctor Emerson: My interest goes without saying. I learned of a treatment, last spring, in which guaiacol was used externally, the podophyllin being relied on internally in small doses for intestinal antiseptic effects. As regards prophylaxis, statements as to our water supply are so at variance that I am much puzzled. Some assert that our intake is so far out as not to be influenced by the inflow from Connor's Creek, while others profess to know that it is practically below, and liable to the contaminating inflow from, that creek.

Doctor Sprague: I heard Doctor Woodbridge with interest and am glad to know that this rational plan of intestinal antisepsis secures such good effects here. The sulphocarbolate of zinc I have used with good results. The repeated small doses here must be an advantage.

Doctor Wyman: In my limited experience as a physician, I have seen some cases of typhoid fever. I used to give the mercurials and impregnate thoroughly with turpentine and its preparations. I fail to see anything in this method that is new in practice, unless it is the persistence in saturating the intestinal tract with antiseptics. One word as to the use of water in the treatment of fever. Water is a most powerful agent for good in our hands. As to the contamination from Connor's Creek, I have for ten years looked upon the delta of this creek as an immense settling basin. For the past two years conditions have not been favorable to show the contamination from this stream, as we have not had the necessary heavy rains. The drainage of the creek, too, has been improved and this has facilitated a rapid discharge of water after a rain. I satisfied myself, a long time ago, that the water was not safely potable and for six years my family has used no water which was not thoroughly sterilized by boiling. When we do get our normal rain supply we shall have in our pipes as fine a specimen of infected water as can be found anywhere.

Doctor Duffield: The keynote is, of course, prophylaxis. I regret that nothing was said on the subnormal temperature of typhoid fever, a subject which has always interested me and puzzled me.

EDITORIAL ARTICLES.

PAVOR NOCTURNUS.

The etiology of night-terrors, the so-called pavor nocturnus, has for long been in dispute. Some authors deem the characteristic attacks to be purely reflex in origin, due to indigestion, or to adenoids, nasopharyngeal troubles, enlarged tonsils or some other complication of respiration, such as badly ventilated rooms. Others, again, consider the attack to be due to central causes, allied in nature to somnambulism, or nocturnal incontinence, or even reaching a mild form of cortical epilepsy.

In an interesting article in *The American Journal of the Medical Sciences*, **Doctor J. A. Coutts** discusses the views previously held and gives his own. He considers that night disturbances are of two kinds. One, a purely reflex disorder, to which he gives the name of nightmare. Children afflicted with any trouble producing reflex symptoms may be, and are, troubled with nightmare. The other form he regards as central in origin, and this he terms night-terror. The difference between the two forms consists in the fact that in night-terrors the subject actually sees visions, while in the lesser state he only dreams dreams. The visions in the former instance actually rise into hallucinations, while in the other case, the delusions are simply of the immaterial substance of which dreams are made.

It might be suggested that pavus nocturnus, like some other mysterious diseases, may find its ultimate explanation under the theory of inherited memory. There is no good reason for night-terror, nor even for a child's fear of the dark, other than that which would account for it by historical methods. The subject of pavor nocturnus has visions of black men and dangerous animals. Red and fiery colors predominate in his hallucinations. There was undoubtedly in a long distant past a time when the dangers and terrors of the darkness were very real. When men could not have the defense of the light they were a prey to all kinds of nocturnal surprises. Of those days perhaps we have a faint echo in the startled cry of the child now suffering from pavor nocturnus.

ANNOTATIONS.

INTRAUTERINE PUERICULTURE.

M. Pinard, a French observer, has detailed some of the effects resulting from the treatment given to abandoned women in special refuges for the pregnant. He finds that the "puericulture" of the children born to women who had lived in the refuge to be very superior to those who had worked up to the date of their confinement. The average weight of the children of five hundred women who had continued working was six pounds, while that of those born in the refuge was eight pounds. **M. Pinard** also finds the duration of gestation diminished in those receiving proper care during pregnancy. Premature birth is to be regarded as a disadvantage to the race, and the establishment of refuges, he regards, as a benefaction of no inconsiderable moment.

EXPERIMENTAL APPENDICITIS.

In order to elucidate the pathogenesis of appendicitis **Doctor Roger** and **Doctor Jeune**, of Paris, recently undertook some experimental researches. The appendix vermiformis of the rabbit was first ligatured after introduction into the cavity of a virulent culture of the bacterium coli commune. The animal died in two weeks, and the postmortem revealed suppurative appendicitis with periappendicitis. Further experiment showed the injection of the culture was unnecessary, the aseptic ligature of the appendix sufficing to induce its inflammation. In a rabbit killed three months after such a ligature the part of the appendix isolated by the thread was seen to have been transformed into a cyst shut off from the rest of the intestinal canal and filled with thick pus containing in a pure state the bacterium coli. This microbe, apparently harmless so long as the flow of the intestinal contents is not impeded, becomes virulent when stasis is established. These observers conclude that appendicitis is always the result of the conversion of the appendicular canal into a closed cavity. Partial obliteration with resulting inflammation into a closed sac is due to the progressive formation of a cumulus more or less hard in consistence in proportion to the admixture of lime and magnesium salt to the stercoral ingredients. In some cases a fibrous structure results in the closure of the appendix. It would appear that until the normal canal of the appendix is converted into a closed cavity the symptoms of appendicitis are not present.

ANTIVIVISECTION.

AMONG the crazes which are likely to cross the water and afflict this country must be mentioned antivivisection. The agitation usually takes the form of an infectious hysteria. A bill "for the prevention of cruelty to animals in the District of Columbia," is now before the senate and house. The restrictions to vivisection contemplated in this measure are so stringent that no experiment on an animal could be conducted, and all bacteriological experiments would have to be abandoned. It is to be hoped that the bicycle or some other form of amusement will occupy the minds of the impressionable this summer, and that scientific pursuits may be uninterrupted.

CONTEMPORARY.

THE HERALDING OF CURES THROUGH THE PUBLIC PRESS.

[THE AMERICAN MEDICO-SURGICAL BULLETIN.]

THE glory of the terminal years of this century, as regards medicine, is the marvelous progress made in matters which relate more particularly to its surgical side. When, after an unbiased fashion, we study the advance along the medical side of the art, we find much which is lauded as new, little that stands the test of scientific touch, much which savors of return to methods resurrected from the past. True enough, bacteriological research is full of rich promise, and quiet, honest work in the line of hygiene and the prophylaxis of disease has accomplished much for the good of humanity; but, so far as actual cure of disease which baffled our ancestors is concerned, we stand nearly where they did, even though our diagnostic methods are far superior and our instruments for research are more exact.

Nothwithstanding all this, every now and then there are whisperings in the lay and the medical press, too frequently in the former before the latter opens its ear to the seductive sounds, that steps are being taken for the giving to the public of a remedy which will enable us to acquire control over disease which has resisted the onslaughts of generations of medical men, and which has thriven notwithstanding scores of exploited and forgotten cures. The mountain labors again and brings forth the mouse! The lay press spreads the news abroad, lighting the embers of hope in the breast of many a sufferer; the medical press partakes of the delusion; and then, like the birth of the new Messiah in Denver, the cure fades like a wreath of mist at eve, one or another medical man has secured a transient reputation, the public has again been gulled, and the science of medicine has been made a laughing stock!

Look at tuberculin, and think of the poor public deluded into paying enormous sums for injections which today are regarded with much suspicion by leaders in the medical profession! Remember the pneumatic cabinet, and the elixir of life which, by the way, did not prolong the life of the scientist who gave it to the world! Remember, further, the claims advanced for ovarin and testiculin, and medulin, and other *ins* too numerous to mention! Scan the daily press of a few months back for the marvelous discovery made in Berlin by an American and cabled to this country through the medium of the American embassy! *Cui bono?* And so let us hold fast to the words of the poet —*Festina lente.*

THE MEDICAL JOURNAL AS AN EDUCATOR.

[THE ARCHIVES OF PEDIATRICS.]

We had occasion in the last number of *The Archives* to refer to the necessity of study on the part of the practicing physician and to the means to be employed in building up a perfect professional character. Study was referred to as one of the most important agencies for the accomplishment of this end. Three avenues are open to the physician by which he may keep abreast of the times—books, medical journals, and postgraduate schools. The last of these are accessible to but few, and present instruction adapted only to certain cases. The last editions of standard medical books are indispensable to the true student. In the textbook and monograph he finds the various subjects of medical interest reviewed systematically and discussed in all their details. In the medical journal, however, he finds the record of medical progress as he can find it in no other place. The journal with its various departments admits of all classes of medical literature, and contains many practical and important articles which would not be adapted to the more pretentious and dignified bound volume. The well-arranged journal covers the whole field of medical writing, from the scientific original article to the clinical report, which not infrequently furnishes a key to some puzzling case. Such assistance in a single case often proves of a value not to be estimated in dollars and cents.

Nearly all the best papers that appear in the medical journals are first read in societies. The discussions which they elicit are frequently of even more practical value than the papers themselves. Society reports are justly regarded, therefore, as of very great value to the practitioner.

A department of book reviews when conscientiously conducted is also a factor of value to the medical man. The average doctor is limited in the number of books he is able to purchase. A discriminating review, which does not fear to criticise, but does not criticise for the mere sake of criticising, enables him to judge both of the scope of a book and its probable value to him. He is thus able to place in his library those books from which he will derive the most good in his own particular class of practice.

A department of abstracts renders the reader familiar with the current literature of the world with the slightest possible expenditure of time and exertion. The editorial department, in many regards the most important in the journal, sifts, analyzes and generalizes. It should present carefully considered opinions and conclusions regarding the topics in which its readers are interested. It should be impersonal and impartial, dealing not in theories and speculations but in facts, and presenting from time to time a discriminating review of the various questions which are under discussion by the profession.

MEDICAL NEWS.

THE STATE MEDICAL MEETING.

The preliminary circular for the thirty-first annual meeting of the Michigan State Medical Society has been issued by the secretary, Doctor Collins H. Johnston. It indicates that the program will be exceptionally interesting. An address has been promised by Doctor Nicholas Senn, of Chicago, and Doctor A. Jacobi, of New York, has also signified his intention to participate in the deliberations. The leading topics for discussion will be: "Typhoid Fever—its etiology, pathology, diagnosis, symptoms, and treatment;" "The Treatment of Pelvic Suppuration—(1) through the abdomen, (2) through the vagina, (3) conservative;" "Surgical Diseases of the Antra." A new feature of the social order will be a banquet, at which a number of the guild will indulge in postprandial speeches. The wives and daughters of members are to be entertained by a boat ride to the picturesque Saint Clair Flats. All Michigan railroad companies have agreed to grant the usual reduction of one and one-third fare for the round trip. Sessions will be held on Thursday and Friday, June 4 and 5, and special effort should be made by all physicians to augment the gathering by their presence.

A MOVEMENT TO INCORPORATE AN OPTICAL SOCIETY.

The New York legislature has been importuned to enact a measure which provides for the incorporation of the "Optical Society of the State of New York for the purpose of improving and regulating the practice of dispensing and refracting opticians." The bill delegates to members of this organization the right to prescribe glasses for the relief of headache, neuralgia, chorea, epilepsy, or any ailment to which the human body is heir, notwithstanding the proficiency contemplated in a medical education has not been acquired. All opticians, jewelers, or clerks now devoting attention to fitting glasses or writing prescriptions for lenses may continue the occupation by investing five dollars in a certificate, but a clause prohibits any person assuming the duties of optician, after ninety days from the passage of the bill, who is not identified with the society, membership in which is restricted by a system of examination. Provision is made for three examiners, but the board of regents is compelled to make the appointments from six candidates nominated by the secretary of the society. The absurdity of laymen essaying to "regulate" a medical specialty is only equalled by the deplorable quiescence with which the movement is tolerated by the profession in that state.

DAMAGES FOR BETRAYAL OF CONFIDENCE.

DOCTOR PLAYFAIR, the renowned obstetrician of London, was recently defeated in an action instituted by a patient to obtain $60,000 damages for violation of professional confidence. The plaintiff was a married woman whose husband had been in Australia for about one year. During this absence the family physician attended the woman through an illness, and being somewhat puzzled concerning the nature of her ailment he called Doctor Playfair in consultation. The latter was matrimonially connected with the patient, she being his wife's sister-in-law, and consequently after taking an inventory of the condition he unhesitatingly accused her of infidelity and promptly reported the diagnosis to his wife, admonishing her to sever social relations with the patient. The charge now became contagious and soon spread like wildfire, resulting in the woman being ostracised from society, and disallowed an annuity of $2,500 which she had been receiving from her father-in-law. At this juncture she requested her husband to return and vindicate her character. He firmly believed his wife innocent of unchastity and immediately advised legal proceedings to restore honor and procure damages. The defense met the issue with the claim that protection of wife and family demanded the course pursued, but the judge observed that infraction of the sacred relation under any circumstances incurred responsibility before the law, and the jury therefore rendered a verdict in favor of the plaintiff.

"THE PROPER PLACE OF THE TECHNICAL SCHOOL."

AT the commencement exercises of the Michigan College of Medicine and Surgery of Detroit, Frank T. Lodge, M. A., LL.B., discussed this subject in the annual address, during the delivery of which the following views were expressed: "I believe that the state owes it to its citizens to provide higher education to such as can avail themselves of it, by maintaining liberal courses of the most advanced learning, and even original investigation, along all the lines of what should properly constitute a university, in the best and highest sense. There is today no more potent influence operating for the weal of our own fair state than the glorious institution at Ann Arbor. But there is a danger point even in this worthy object, beyond which it is not safe to pass. At the present time our state, with others, is supporting at public expense technical schools, wherein men and women are fitted not for any and every walk of life, but for the few so-called liberal professions, the chief of which are law and medicine. The claim is made that the students in these schools are obliged to pay fees, and that, in the law school, at least, the university is enabled to turn over to the state a profit. But this is simply a juggling of figures. If the proper proportion of all the general expenses of the institution were charged as a part of the expenses of the law school, it, too, would be found to be an expense to the state, over and above the fees received from the students. In my humble opinion the state has no right to fit a favored few for their life work at the expense of the unfortunate many who, from their less favorable environments, are not themselves able to devote the time necessary to acquire this higher learning. All public expenditures should be for the general welfare, and not for the favored few. The fitting of a few fortunate young people with the tools whereby they are to earn their future livelihood in one or two professions, is not such an expenditure for the general welfare; and, until the state is prepared to undertake the enormous burden of educating every one of its citizens for the particular walk in life which his fancy or his circumstances may impel him to adopt, it has no right to fit any person for any particular profession. Private enterprise can educate lawyers and doctors, as well, or better than, the state actually does. Our great lawyers of today had not the benefit of any training in the so-called professional schools. They trace their beginnings to days of drudgery in lawyers' offices, and they rose by graduations from office boy to senior partner. A large proportion of the coming leaders at the bar, and in medicine, among the younger element, were trained in the law and medical schools maintained by private enterprise. It is a fair and safe principle that the state should not enter into competition with private enterprise, unless some overwhelming reason of public policy will justify it. If, for any reason, the state should educate in these lines better than private individuals; if the spirit of competition, which has hitherto been sufficient in every line of trade and science to stimulate the highest development, after a fair trial, should fail to produce competent practitioners in the different professions, then the aspect of the case might be different; but such is not the fact. Today the graduates of the private and public medical and law schools of similar rank, stand side by side in the professions. Today the leaders of the bar come alike from the humble law office and the well-endowed and state-supported public technical schools. And there is no reason of this kind which renders it imperative or even necessary for the state to enter into competition with its own citizens."

MINOR INTELLIGENCE.

London has to care for 13,047 insane persons.

Immunizing serums are now employed by enemata.

Czajikowski has discovered the bacillus that causes measles.

The Berlin Clinical Society has denounced Koch's tuberculin.

Houston, Texas, has about one hundred and twenty-five physicians.

In Paris 490 persons die of tuberculosis in every 100,000 inhabitants.

The Kansas State Medical Society will meet at Topeka on May 13, 14 and 15.

The Wisconsin State Medical Society will convene in Madison on June 3, 4, and 5.

The medical department of the University of Buffalo has adopted the four year course.

The Michigan College of Medicine and Surgery at Detroit recently graduated a class of forty.

An average of 15,000 microbes are taken into the air passages with each human inspiration.

The Medical Society of Pennsylvania will meet in forty-sixth annual session at Harrisburgh, on May 19 to 21.

In a suit recently tried at Battle Creek, Michigan, the judge decided that a physician must testify in court regarding the ailments of patients.

Doctor Osler has greatly benefited a case of Addison's disease by the employment of suprarenal extract.

The Third International Congress of Dermatology will be held in London, England, on August 4 to 8 inclusive.

The forty-seventh annual meeting of the Indiana State Medical Society will be held at Fort Wayne on May 28 and 29.

On February 29, Doctor Lewis A. Sayre, of New York City, reached the seventy-sixth milepost of his life's journey.

The Maryland legislature will be asked to deal with a bill which provides for the creation of a board of dental examiners.

The National Association of Railway Surgeons will meet in Saint Louis Missouri, on April 30, and continue its sessions three days.

The third annual commencement exercises of the veterinary department of the Detroit College of Medicine recently occurred at the college building.

The Association of Military Surgeons of the United States will hold its sixth annual meeting in Philadelphia on May 12, 13, and 14, under the presidency of Doctor Lewis W. Read.

A bill to regulate horseshoeing is before the New York legislature. It provides that blacksmiths submit to examination and become licentiates as a prerequisite to engaging in the art.

Doctor Antonio Lagorio has been decorated with the Cross of Chevalier of the Order of the Crown of Italy by King Humbert. The doctor is the founder and conductor of the Chicago Pasteur Institute.

The medical profession of London, Ontario, has declared against contract lodge work. Every reputable physician in the town has entered into an agreement to refrain from bartering professional services.

Professor Jaccoud denies the communicability of tuberculosis from infected to healthy persons in hospitals, and adds that in all cases of alleged contraction in that way the victim already had local tuberculosis.

Philadelphia will soon have a doctors' building. An organization has been effected for the purpose of erecting a ten-story fireproof building at Chestnut and Eighteenth streets exclusively for doctors' offices.

The wholesale price of cod-liver oil is likely to exceed the quotations of last season. The production of the standard remedy has suffered a great diminution, and total suspension of the Norwegian product is feared.

Doctor Liten, of Berlin, expresses the opinion that the source of the blood plates is not from the decomposition products of the white blood cells, but from the decomposition products of the red blood cells. He believes them to be the stroma of the red cells minus the hemoglobin.

The Chicago Municipal Board recently passed an ambulance ordinance. It grants the right of way in the thoroughfares to physicians and their vehicles when answering professional calls as against persons, processions, animals or vehicles, providing a permit and badge be procured from the city clerk.

San Francisco is aroused to the danger of carrying children on bicycles, and has recently passed an ordinance prohibiting bicyclists from carrying on their machines any child who has not attained the age of six years.

A bill aiming to legalize the Keeley cure has been introduced into the New York legislature. It provides that any person twice convicted of drunkenness shall be sentenced to submit to this so-called cure as a means of reform.

Doctor W. G. Henry has given up active practice in Detroit, and taken charge of the Oakland Mineral Springs at Saint Clair. He will endeavor to make the health-giving waters useful, to the profession, and to the public.

Governor Morton, of New York, has signed the bill raising the medical students' course from three to four years. Students now attending college will be permitted to graduate under the rules which obtained when they matriculated.

The Italian Chamber of Deputies have been asked to pass a bill relegating quinine to the other government monopolies of salt and tobacco, its sale to be restricted by permit. The measure contemplates the sale of the drug by tobacconists instead of druggists.

Doctor Charles A. L. Reed, of Cincinnati, has been appointed a member of the State Board of Medical Examiners created by the medical practice law recently enacted in Ohio. The board consists of three regulars, one homeopath, two eclectics, and one physio-medic.

George S. Davis, of Detroit, medical publisher, and member of the pharmaceutical firm of Parke, Davis & Company, has received the distinction of being elected a foreign member of the Hygienic Society of Paris, in recognition of his services in behalf of medical literature.

Doctor Donald Maclean has returned from a trip to Salt Lake City, where he has been sojourning with his brother, for the benefit of health. Doctor Maclean met many old friends and pupils in western cities, and in Salt Lake City performed a large number of operations.

Doctor C. H. Tebault, of New Orleans, is the new surgeon-general of the United Confederate Veterans, vice Doctor Joseph Jones recently deceased. Doctor A. L. Metz has been elected to the professorship of Chemistry and Medical Jurisprudence, pro tempore, to fill Doctor Jones's position in the faculty of the medical department of Tulane University.

Professor W. O. Atwater, of Middletown, Connecticut, has recently been conducting a series of experiments for the purpose of determining the relative value of foods. In order to definitely solve the problem, his colleague, Doctor Tower, has been incarcerated in an air-tight chamber on various occasions for intervals of a week, air being supplied at stated times. The results of the investigations have not yet been made public.

Damages have recently been assessed by an English court upon a physician for employing water of too high temperature for vaginal injections in a case of postpartum hemorrhage. One witness swore that the water was boiling, and that she so informed the doctor. Subsequently numerous blisters appeared upon the patient's body, and they were attributed to the excessively hot water. The judge awarded the plaintiff £15 less the professional fee of £3.

THE new building for the veterinary department of the Detroit College of Medicine will soon be erected. The trustees expect that it will be ready for occupancy at the beginning of the fall term. It will be four stories high, constructed of brick, and will involve an expense of $28,000. It will be located in close proximity to the college, and will face on Mullett street.

BACTERIA have been discovered in Russian grain. A recent investigation demonstrated that the infectious bugbear is not deleteriously affected by the heat of an oven and Germany promptly prohibited the importation of Russian cereals. The friction incident to this action against the grain is likely to be relieved, however, at the expense of all knowledge evolved from the germination theory.

IN its transition to state control the legal appellation of the former New York City Asylum for the Insane has been changed to the Manhattan State Hospital, and report is current that wrangling has already ensued between the state and city authorities, the former having issued an edict that each patient sent by the city must appear in a brand new garb with an underwear reserve. It being impossible for the city to comply with this requirement at once the charity commissioners secured a mandamus compelling the state to accept the patients in old attire.

M. CHANTEMESSE announced at a recent meeting of the Paris Society de Biologie that he had succeeded in immunizing horses against the virus of typhoid fever, and that he had obtained therefrom an immunizing serum which prevented the development of the disease in guinea pigs. The experimenter has employed this serum in three cases of typhoid fever with gratifying results. Immediately following the injection the temperature began to fall, and after continuing the treatment seven days all fever had vanished, and convalescence assumed uninterrupted control.

THE fluoroscope is the latest invention resulting from the X–ray discovery. This apparatus is described as fluorescent spectacles which render sight possible through any part of the body, and the inventor, Thomas A. Edison, claims that surgeons can adapt it to hospital use. The fluorescent medium consists of paper which is covered with the tungstate of calcium, and takes the place of ordinary lenses in the spectacles. By calling into requisition a portable machine containing an air-pump and Crookes' tube the rays are projected through a limb from its distal aspect and the image is thereby transferred to the eye of the observer.

THE Imperial Board of Health of Germany has been experimenting on buried cadavers for the purpose of determining the effect of cemeteries upon health, and have demonstrated that the typhoid bacilli yield up the ghost on the ninety-sixth day after burial; cholera germs survive about twenty-eight days; tubercle bacilli expire on the ninety-fifth day; tetanus bacilli eke out an existence for two hundred and thirty-four days, and the anthrax germs retain the power of producing clonic contractions for a year. These experiments are reported by Professor Petri, of Berlin, and they are sanctioned by Doctor Losener, a member of the board, who further states that even wetting of graves by soil water in porous soil is devoid of ill-results provided the soil is surrounded by earth of the ordinary filtering quality.

A MATCH that is non-poisonous has been invented by M. Pouteaux, a distinguished French chemist. The material from which it is made consists of a mixture of permanganate of potash and acetate of amyl. They ignite readily, possess the odor of aniseed, exert no baneful effects upon factory operators, are easily manufactured, and may be stored without danger of explosion.

THE Cornell Brain Association is the singular name of a society which contemplates the postmortem study of the human brain with a view to ascertaining the effects of education and good morals upon this organ. The president has issued an appeal to educated and moral persons to bequeath their brains to the organization for scientific study. Eight cerebrums have already been received, and twenty-five others are promised, the delivery to occur when their enthusiastic possessors embark for the elysian fields of paradise.

RECENT PUBLICATIONS.

REVIEWS.

HANDBOOK OF MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.*

THIS is a volume of materia medica, to know the contents of which will fill the reader with much understanding. The information it contains is arranged in a concise, concentrated and convenient form. A full consideration is afforded to all materia medica in use, and an elaborate chapter on drug classification precedes this. The second part of the book is devoted to pharmacy, and in this section prescription writing receives full consideration. The third part deals with special therapeutics.

The work is thoroughly up to date, and the fact that this is the fifth edition called for is sufficient guarantee that any popularity the work has acquired is well merited.

*By Samuel O. L. Potter, A. M., M. D., M. R. C. P., Late Professor of the Theory and Practice of Medicine in the Cooper Medical College of San Francisco, et cetera. Fifth edition. Price, $4.50. P. Blakiston, Son & Company, Philadelphia.

A TEXTBOOK UPON THE PATHOGENIC BACTERIA.*

THIS book is an excellent manual for those undertaking the now all important subject of bacterial pathology. The causes of suppuration, and those other complications due to the action of the microbe, are clearly and lucidly described, and the work is amply illustrated with plates which will simplify the microscopic recognition of the principal offenders. The work is handsomely published, and will be found a valuable acquisition to the physician's library.

*For Students of Medicine and Physicians. By Joseph McFarland, M. D., Demonstrator of Pathological Histology, Lecturer on Bacteriology in the Medical Department of the University of Pennsylvania, et cetera. With 113 illustrations. Cloth, 8vo, 359 pages. Price, $2.50. Philadelphia: W. B. Saunders & Company.

ELECTROTHERAPEUTIC PRACTICE.*

This little volume is an excellent aid to the practical application of electricity in various diseases. Under the caption of different diseases the plain and essential facts of electrotherapy are stated.

*A Ready Reference Guide for Physicians in the Use of Electricity. By Chas. S. Neiswanger, Ph. G., author of "Suggestions in Electrotherapeutics." Price, $2.00. E. H. Colgrove & Company, Chicago.

NOTES ON SURGERY FOR NURSES.*

This little book has passed into a fourth edition. It is an excellent manual for nurses to peruse, and well digest the contents. Cleanliness is the keynote to the success of surgical nursing most insisted on. The points in this chapter on general advice to nurses are good ones to be thoroughly apprehended by the successful nurse.

*By Joseph Bell, M. D., F. R. C. S. (Edinburgh), Consulting Surgeon to the Royal Infirmary, et cetera. Fourth edition. Oliver & Boyd, Edinburgh; Simpkin, Marshall & Company, London.

CATARRHAL DISEASES OF THE RESPIRATORY PASSAGES.*

Doctor Carter not only reviews the subject of catarrhal diseases of the respiratory passages from the clinical standpoint, but gives a vast number of suggestions regarding the climatic treatment of the air passages, based upon extended observation and experience. He has given the profession a readable and useful manual.

*By J. M. G. Carter, M. A., M. D., Professor of Preventive and Clinical Medicine in the College of Physicians and Surgeons of Chicago. Price, $1.00. E. H. Colgrove & Company, Chicago.

INFANTILE MORTALITY DURING CHILDBIRTH AND ITS PREVENTION.*

The award of the William Furness Jenks Prize was undoubtedly justly given to the writer of this essay. The various causes of infant mortality are discussed in a manner which demonstrates that the author has made a thorough research of his subject. The book will be welcome to the obstetrician and the pediatrist.

*By A. Brothers, B. S., M. D., Visiting Gynecologist to Beth Israel Hospital, New York, et cetera. William Furness Jenks Prize Essay of the College of Physicians of Philadelphia. Cloth, 8vo, 176 pages. Price, $1.50. Philadelphia: P. Blakiston, Son & Company.

THE PRACTICE OF MASSAGE: ITS PHYSIOLOGICAL EFFECTS AND THERAPEUTIC USES.*

This book will take front rank among the excellent manuals of massage already before the reader. It is not only a practical guide to the masseur, but affords ample indications to the practitioner, as to the best forms of manipulation to which to subject a patient with any particular malady. There is much that appears new and original, and no apology is needed for the work on the score of dealing with well thrashed straw.

*By A. Symonds Eccles, M. B. (Aberdeen). MacMillan & Company, London and New York.

A GUIDE TO THE PRACTICAL EXAMINATION OF THE URINE.*

FREQUENT references have been made to this admirable and popular manual. The praise bestowed on former editions can only be repeated here. As a guide to the practical examination of the urine Doctor Tyson's book will be found complete in every possible detail.

* For the Use of Physicians and Students. By James Tyson, M. D., Professor of Clinical Medicine in the University of Pennsylvania. Ninth edition. Price, $1.25. P. Blakiston, Son & Company, Philadelphia.

THE SENILE HEART.*

ONE of the most charming of latter-day medical writings will be found in Doctor Balfour's little book on the senile heart. It is a classic upon old age, which may worthily take rank with the other celebrated books written upon that subject from Cicero to Holmes. From a medical standpoint there is nothing left to be desired, and when the reader has concluded the perusal of the book he will gladly con its pages again.

* Its Symptoms, Sequelæ, and Treatment. By George William Balfour, M. D., LL.D., Consulting Physician to the Royal Infirmary, Edinburgh. Price, $1.50. Macmillan & Company, New York.

MEDICAL PROGRESS.

MEDICINE.

DISCOVERY OF VASO-CONSTRICTOR NERVES OF THE HEART.

THE announcement of Doctor W. T. Porter's discovery of the vaso-constrictor fibres of the heart, to which former allusion has been made, brings home the fact that the long-cherished dream of making the mammalian heart as accessible to research as any other muscle is now coming true. A quarter-century has passed since the experiments of Bowditch, Merunowicz, Luciani, and Kronecker, in Ludwig's laboratory, led the way for that swarm of investigations on the isolated heart of the frog to which pharmacology and practical medicine owe so much. During these years, more than one investigator, tempted by the harvest that waited on success, has endeavored to isolate the mammalian heart. Martin nearly succeeded, but was obliged to keep the pulmonary circulation intact in order to feed the heart with oxygenated blood. Ludwig, with Pawlow and Stolnikow, greatly improved the details of Martin's method, but was foiled in turn by the difficulty of oxygenating the blood in the absence of the lungs. And yet how simply this great obstacle was finally overcome! Hedon and Gilis, in 1892, received the body of a man guillotined three-quarters of an hour before. They tied the descending aorta and the arteries that spring from the aortic arch and injected into the aorta defibrinated dog's blood. The semilunar valves closed, the blood streamed through the coronary arteries, and the heart recommenced its long interrupted beat. Hedon and Gilis went no further. Their method has since been put into practical use by Langendorff, in Rostock, and in the Harvard Medical School. The isolation of the living mammalian heart has become an easy and certain operation. The discovery of the vasomotor nerves of the heart is as yet the most valuable fruit of this procedure, but it is easy to see that a most enticing field of investigation is now open and that results of the greatest interest are likely to be attained.—*The Medical Record.*

BURNS TREATED BY STRONG CARBOLIC ACID.

Doctor Benjamin H. Broadnax, of Broadnax, Louisiana, writes to the *Popular Science News* as to above bold line of treatment of burns and scalds: "Take pure, undiluted carbolic acid; with a feather or fine brush paint the burned or scalded surfaces, extending a little over the edge, where the wounded surface is not bare. Pain instantly ceases, and if care is taken no other dressing is required but a light tissue of lint cotton, and one roll of bandage will insure from contusions, et cetera." Doctor O. H. Allis, who read the original article, sent him by myself, before the Philadelphia County Medical Society, March 10, 1894, remarked: "To my mind it is one of the boldest ventures in all surgery. To think of applying to a raw and agonizing burn that which would scald a healthy cutaneous surface would seem to the unreflective mind a reckless and cruel act. But when we consider that a raw burned surface is painful from its exposed nerve filaments, and that the strong acid, combining with the albumin of the tissues, forms a coating that excludes the air, while at the same time it benumbs —paralyzes—each terminal exposed filament, the remedy seems to be the result of a happy inspiration.—*The Times and Register.*

SURGERY.

AN EASY AND READY METHOD OF CIRCUMCISION.

Doctor John W. Ross says: Retract the foreskin; insert the glans penis up to the corona into the open mouth of a glass test-tube; draw the foreskin well forward over the end of the tube; tie a strong, small silk cord very tightly around the foreskin immediately in front of the flange of the tube, amputate the foreskin one-eighth of an inch in front of the constricting cord by a circular swoop of the knife; unite the mucous and cutaneous edge of the stump of the prepuce by eight or ten fine interrupted sutures; cut the constricting cord; remove the tube; cover the cut edges well with powdered iodoform; encircle the anterior half of the penis with a roller bandage of iodoform gauze, allowing the meatus to project slightly; and keep the patient in bed with the penis elevated, for from twenty-four to forty-eight hours.

OBSTETRICS.

MENSTRUATION AND OVULATION INDEPENDENT.

Doctor Byron Robinson (*American Gynecological and Obstetrical Journal,* August, 1895) in a discussion on menstruation, noted that all evidence favors the theory that ovulation and menstruation are independent. Ovulation, he remarked, occurs before birth in man and other animals. Women menstruate who possess ovaries totally incapable of ovulating from disease. Menstruation frequently continues after removal of the ovaries, and is not required for the ripening and discharge of ovules. The sow seems to ovulate continually and progressively, but the ova ripen in greatest number at rut or estrus. Bobinson believes that sufficient evidence exists to show that no follicle ruptures at many of the menstrual rhythms. Women who do not menstruate can become pregnant. If ovulation and menstruation occurred together coitus between healthy subjects just after the period would far more frequently be followed by pregnancy. Lastly, ovulation, in a modified form, continues during pregnancy.—*The Times and Register.*

MELANGE.

PICRIC ACID FOR BURNS.

French surgeons have recently been using a solution of picric acid for the first treatment of burns; and it has been found that the pain which is caused by the burning of the skin can be almost immediately alleviated, or altogether removed, by painting the affected surface with a strong solution of picric acid. It is stated that the remedy has proved to be quite harmless, and that the yellow stains which are caused by its application can easily be washed out with boric acid. The general verdict of those who have employed the remedy is that it has greatly lessened suffering, and has, therefore, probably saved life, while it would appear that even severe cases thus treated have recovered more speedily and completely than would have been the case under other forms of treatment. It would, therefore, be well, presuming that experience of the remedy in this country gives identical results, if the medical officers of factories or workshops, where accidents like burning or scalding are common occurrences, would direct that solutions of the acid should be kept at hand, and explain the method of its application to the workers.—*The Medical Times and Hospital Gazette.*

REMOVAL OF TATTOO MARKS.

The principle of the method is to form a dermic destruction of the tattooed part. Here is how it is done. It is first necessary to paint over the tattoo marks with a concentrated solution of tannin; afterward, by means of fine needles, we make a series of pickings over the tattooed design. Over the surface thus picked we pass a stick of nitrate of silver. At the end of a few minutes we see detached the black pickings previously made, and know that the superficial layers of derma contain a tannate of silver. In order to assure success this surface must be powdered with tannin for two or three days. The end is very simple. After an inflammatory action, lasting two or three days, the picked parts turn black, forming a thin crust, very adherent to the deeper skin, but painless. At the end of from fourteen to eighteen days the scab falls off, and in its place a superficial red mark is seen, which gradually fades away until, at the end of a few months, all signs of coloration disappear. Dr. Baillot also suggests the use of bioxalate of potassium in place of nitrate of silver—*The Lancet-Clinic.*

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ORIGINAL CONTRIBUTIONS.

MEMOIRS.

DIGITALIS, CACTUS GRANDIFLORUS, STROPHANTHUS AND NITRO-GLYCERIN.*

BY JUSTIN E. EMERSON, M. D., DETROIT, MICHIGAN.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

"KEEP thy heart above all that thou guardest, for out of it are the issues of life," is an injunction nearly thirty centuries old, yet it is still a maxim as pregnant with wisdom for us in the treatment of the sick man as many a more modern dictum.

It is not my design this evening to speak in detail of all the drugs that may be advantageously used to modify or strengthen the action of the heart; it is rather to consider a few that exert a special influence upon the heart and circulation with a view to discriminate between them and to ascertain if possible what, if any, are the indications for the use of one rather than another of them.

It is to be borne in mind that it is a sick person rather than any specific disease which we are called upon to treat, and that we may consequently find it necessary to fortify the failing power of the patient by the use of other remedies than those which manifest a special action on the heart and circulation. Thus it may often happen that a weak heart may best be fortified by the administration of an easily assimilated food in more abundant measure, or of full doses of strychnine, or some other general tonic of the nervous system. This fact has been often illustrated of late in the treatment of delirium tremens by the use of strychnine in doses that a few years ago would have been regarded as poisonous.

Of the four drugs which we have to consider this evening digitalis is the one longest known to the profession, and is probably the one still most frequently used as a cardiac energizer. A right understanding of its physiological action doubtless gives the key to its proper therapeutic use. It would be interesting at this point, had we time, to review the history of this drug for the past four centuries and to note the vicissitudes through which it has passed and the various empirical virtues ascribed to it at different periods. It is only in comparatively recent years that a correct understanding of its physiological action has been reached. Within the past twenty years it has been classed as an "arterial sedative" by one of the prominent writers on materia medica in this country.

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* Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

Without delaying on the history of the discovery of its physiological action we may, in brief, say that it has the power of increasing or at least stimulating the contractile energy of the heart and of the muscular coats of the arterioles, hence it increases the power of the systole and prolongs the diastole and both by the increased *vis a tergo* and the narrowing of the lumen of the arterioles it heightens arterial pressure. Increase the dose or continue it unduly and the action of the heart is finally arrested, not from paralysis but through the muscular spasm of its walls, in a state of systole. We have spoken as though it had no other physiological action not because it has no other action but for our present purpose it is unnecessary to consider it.

Guided by what has been said regarding its physiological action we may infer that digitalis is likely to be of service in a condition of the patient characterized by weakened heart action, rapid pulse and low arterial pressure. Vigorous heart action, with high arterial tension would, on the contrary, contraindicate its use. Apply this rule as you will, and be the condition that of pneumonia, bronchitis, valvular disease of the heart, neurasthenia, melancholia, or renal disease, I do not think that you will go amiss, with perhaps one saving clause to be referred to later.

The form in which digitalis is more commonly used is the tincture or the infusion, the powdered herb and the fluid extract and the so-called digitalin.

The tincture, of which one fluid drachm represents eight grains of the dried herb, probably most completely presents the therapeutic virtues of the drug, inasmuch as it holds in more complete solution the somewhat complex active principles that give it efficacy.

The infusion, of which one fluid ounce contains six and six-tenths grains of the herb, is preferred by some perhaps because it is apt to be given in proportionately larger doses. A watery solution certainly does not as fully as an alcoholic solution represent the physiological activity of the herb.

Digitalin, which is not unfrequently prescribed, is at best an uncertain product. It is a varying mixture of several active principles, namely, digitalin, digitalein, digitoxin, and perhaps others which vary in their proportions according to the process used by the manufacturer in separating them from the herb. The commencing dose of the digitalin of the shop, should not exceed the one-fiftieth of a grain.

The tonic use of tincture of digitalis in melancholia is based upon its physiological action, and in practice often proves as efficient as the theory of its action would lead us to anticipate. Its use as a hemostatic is equally well explained by its power of contracting the arterioles.

Strophanthus, a recently introduced cardiac energizer, has, like digitalis, the power of increasing the force of the muscles of the heart and hence of increasing its action in systole, but its action is not confined to the cardiac muscles alone, but is felt by all muscles in less degree. There seems to be some question as to its effect on arterial tension. The belief that it did not, like digitalis, increase arterial tension, led to sanguine hopes that it would prove more than a substitute for digitalis. Thus far, however, these hopes have not been realized, although the tincture of strophanthus or its active principle strophanthin have been reported as efficient in some cases for which digitalis had failed to be of benefit.

I question whether any definite rule can yet be given as to the preferential indications for the use of this remedy as a substitute for digitalis. It is said to be equally liable to cause nausea, but its action is not so prolonged. Either of them failing to accomplish what we seek, the other may prove more efficient.

The "United States Pharmacopeia" of 1890 has given us a standard tincture of strophanthus, thus removing one ground of danger in prescribing it. The dose of this may be considered to range from five to fifteen minims.

Strophanthin may be given in doses of from one three-hundredth to one hundred and twentieth of a grain with a considerable interval of time between the doses.

The docimetric granules of strophanthin prepared in Chicago have seemed to me an efficient preparation. They contain, it is stated, one five-hundredth of a grain in each granule.

Of the tincture of strophanthus, I have found that sixty drops from the bottle equal forty minims.

Cactus grandiflora has not, we regret to say, been introduced into the official list of the "United States Pharmacopeia." The preparation in common use is the fluid extract, of which the dose is from five to twenty minims. The drop of the fluid extract is as variable in amount as is that of the tincture of strophanthus. Dropped from a bottle with the cork used to control the flow I have found that sixty drops were equal to about forty minims; without using the cork, to about thirty-five minims; and from a dropper, to about twenty-five minims.

Cactus is said to increase the motor energy of the heart, both regulating and strengthening the cardiac impulse. It also elevates the arterial tension by its increased cardiac impulse and by its vasomotor stimulation. Its action is supposed to be due to its stimulating and tonic effect upon the vasomotor centres of the brain and spinal cord.

I have not used cactus in organic diseases of the heart, but for functional disturbances of cardiac action such as often accompany a neurasthenic condition, hysteria, and the so-called tobacco-heart for which regulation rather than increased force is required, I have found it much more satisfactory than any remedy of which I have any knowledge. For functional palpitation of the heart it affords more relief than any drug that I have used. For this purpose a dose of from five to fifteen drops—three or four times a day usually suffices. Its efficacy in relieving the rapid and irregular cardiac action of exophthalmic goitre has been so constant and decided that I have had no occasion to substitute any other remedy for it. For this purpose, however, I have, at times, found it necessary to push its administration to a dose of twenty minims two or three times a day. For the weak and rapid as well as irregular movement of the tobacco-heart I have found it equally efficient. It does not produce nausea or disturbance of the stomach as digitalis so often does, but in the larger doses it has seemed to have a laxative action on the bowels.

Nitroglycerin (and its congeners—the nitrites of amyl, ethyl and sodium) is one of the later additions to our materia medica, nitroglycerin being first admitted to the official list of the "United States Pharmacopeia" in the revision of 1890, under the title of spiritus glonoini, a one per cent. alcoholic solution of nitroglycerin.

The action of this group of drugs is to diminish arterial tension and thereby increase the rapidity of the heart's action, but without increasing its motor energy. This action is doubtless due to its paralyzing action upon the muscular coats of the arterioles, or, in other words, its antagonism to the inhibitory power of the vasomotor centres of the nervous system, an action in which it closely simulates that of alcohol. If a single drop of the spirit of glonoin, or even one-half of a drop, is placed on the tongue, we observe in a few moments a flushed appearance of the countenance, increased rapidity of the pulse, and often more or less headache. The same effect is noted more promptly from inhaling the vapor of nitrite of amyl, or very much more slowly from the ingestion of the nitrite of sodium.

The old fashioned drug, spiritus etheri nitrosi, owes much of its efficacy to the presence of the nitrite of ethyl in its composition, hence it may be classed with this group.

You have all doubtless noticed the new process given for the preparation of this drug published in the "United States Pharmacopeia" of 1890.

In speaking of the therapeutic use of digitalis it was stated that high arterial tension was a contraindication to its administration, with a saving clause to be referred to later. Combined with nitroglycerin it has been found of service in cases of Bright's disease with high arterial tension.

While I am inclined to think that nitroglycerin is often given in too large doses, and that equal benefit with less discomfort may often be obtained from one-half-drop doses as from doses of a drop, yet when its continuous effect is sought the dose must often be repeated every two or three hours and ultimately a tolerance of the drug is acquired that is really astonishing.

In one case of cerebral disease, doubtless due to arterial sclerosis, for which tincture of digitalis in combination with nitroglycerin had been long administered, such tolerance was acquired that the amount of six grains was given in twenty-four hours without any unpleasant symptoms in consequence. The patient ultimately succumbed to his disease, but his life was unquestionably prolonged by the nitroglycerin.

We have used it as a substitute for alcohol in cases in which the latter remedy was contraindicated by previous habits of excessive drinking. In one such case one three-hundredth of a grain (that is, one-third of a drop of the spiritus glonoini) administered once in two or three hours proved a safe and efficient stimulant to the circulation. As a rapidly acting remedy for syncope a dose of a single drop of the spirit of nitroglycerin is most satisfactory. It is also of undoubted utility in preventing an epileptic seizure if the occurrence of aura affords time for the administration of a remedy. The practice of giving it during or immediately after an epileptiform seizure seems to me of doubtful utility whether considered from the standpoint of theory or practical experience. Its function is to diminish inhibitory vasomotor spasm so as to permit a more abundant and easy flow of blood into the capillary blood-vessels and its action in acclerating the heart's activity is unquestionably in a large measure due to its diminishing the resistance *a fronte* to its onward current. Doubtless it also stimulates the heart's action by increasing the blood supply to its muscular walls, but this action must be less prompt and be much less important than the one previously mentioned.

A CONSIDERATION OF UTERINE CURETTAGE.*

By W. P. MANTON, M. D., Detroit, Michigan.

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This minor operation has come into particular prominence during the past two or three years, as a result of a variance in views as to its limitations and benefits, expressed by different pelvic surgeons, as well as by the publication of several articles calling attention to its possible dangers, and to certain untoward sequelæ which may follow in its wake.

Curiously enough, the origin of this discussion of a hitherto-considered trifling procedure cannot be traced to any one or other source, but appears like a furtive germ to have invaded the medical atmosphere of nearly the entire civilized world, and to have broken out epidemic-like not only in the United States but also in England, Germany, France, and other continental countries.

With such specific attention directed to uterine curettage, coming from such widely-separated and varied sources, its consideration would hardly appear to be the result of coincidence or chance, but rather the outcome of some deep and earnest conviction in the minds of medical men which has found vent in a general, and almost simultaneous, expression. Let me here remind you that, while the present age is one of progress and development in nearly every department of medicine and surgery, it is also an age of equalization and readjustment. The discovery of new principles and factors in disease, the accumulation of experience and the evidences furnished by results, have shorn the past of much of the peradventure, and, although it cannot be affirmed that in the main fixed rules and lines of procedure have been established, yet the pathway of uncertainty has been partially blazed, and many of the sink-holes of former generations have been placarded with the danger signal. Each abnormal somatic condition is thus passing through the crucial test and scrutiny, and methods for relief are analyzed, weighed, and graded according as the "white light of science" proves their fitness or the contrary. In such a way, it would seem, has come about this general interest in the operation under consideration.

The genesic specialist has long recognized the fact that the curetting of the uterus, although usually considered one of the simplest and most trivial operations in pelvic surgery, is in reality a procedure which demands not only skill and delicacy in the carrying out of its technique and an experience and judgment in its application, but also a knowledge and familiarity with pelvic anatomy, and of those morbid processes which may affect the pelvic organs. And it is in consequence of the failure to recognize these principles, the abuse of the operation, and the unfortunate results which have followed its performance in the hands of the ignorant and the unskilled in all lands, that this discussion has been precipitated.

Probably no other organ of the body is subjected to so great a variety of ingenious and remarkable insults as the unfortunate uterus, for its accessibility, and its prominence in the list of ailments of the female economy, make it the easy mark of every practitioner of medicine, while its tolerance to manipulation and its humble and long-suffering attitude toward its tormentors render it the object of especial persecution.

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* Read before the Detroit Academy of Medicine.

An intelligent understanding of the operation of curettage, however, demands something more than the mere possession of a curette and muscular strength. Many operators seem to look upon the uterus as a simple bag whose diseased lining must be removed, and set to work much in the way that the ship-carpenter would scrape the barnacles from the bottom of a boat. The real object of the operation is thus often but poorly attained, and, what is neither expected nor desired, secondary conditions, sometimes more serious than the original malady, are induced. In spite of the fact that the uterus is tolerant of manipulation it must not be forgotten that it is an organ rich in blood-supply, netted with lymphatics, and possessed of a nerve distribution which is in intimate relation with the higher centres, and through these with remote and dissimilar organs; that as a result of its anatomical structure, disease of any of its parts may give rise to manifestations in adjacent or even remote parts of the body, and that in our attempts to relieve its disorders, unless our manipulations are directed by a satisfactory knowledge of the condition, not only of the uterus itself but also of surrounding parts, we may, even by the simplest operative measures, accomplish greater harm than benefit to our patient.

The prevalent idea that curettage is an innocent procedure has been productive of untold evil, in that it has too often led to a disregard of those principles which are the foundation and bulwark of modern surgery—antisepticism and asepticism. The preliminary treatment of a patient who is to undergo this operation should be as thorough and complete as in the instance of a more serious undertaking, and nothing should be left undone, the lack of which can in any wise exert a retarding influence on the subsequent progress of the case.

Before entering into the discussion of the technique of the operation, we must recognize two distinct classes of patients upon which it may be performed and in which the methods of procedure are necessarily somewhat different, namely, the nonpuerperal and the puerperal.

In the former class, curettage should usually be preceded by rapid dilatation of the uterine canal, a preliminary which is essential not only for the effectual carrying out of the immediate operation, but also for the subsequent thorough drainage of the cavity. If this important step in the procedure be omitted, the drainage material that may have been used is soon forced out by the contractions of the organ and at the same time a damming back of the blood and secretions which are thrown into the cavity from the denuded walls, and should have free escape, takes place. This gives rise to more or less pain and irritation, and if the operation has not been thoroughly aseptic in its doing may result in septic absorption, and serious, if not dangerous, consequences.

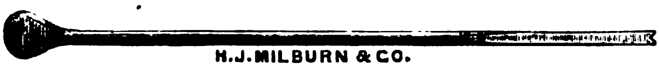
For the removal of the diseased mucosa, whether in the first or second class of cases, there is nothing comparable to the *sharp* curette. The dangers of this instrument have been held up in warning before the profession from the time when **Recamier** first introduced his instrument in 1846 to the present; and rightly, for in inefficient hands it is capable of much mischief. But if the surgeon has the requisite skill to perform the operation, the sharp curette does what no other instrument is capable of doing—removes the diseased tissue thoroughly and completely, and without injury to the underlying structure.

The practitioner whose limited experience with the various conditions in which curettage is resorted to, and whose lack of manual dexterity would limit him to the use of the dull-wire instrument should, in my opinion, never meddle with this operation at all, but for his patient's good, and for his own peace of mind and reputation, leave the procedure to the more skillful and expert.

For the complete operation two curettes are necessary, one with a fair sized fenestrum for the walls of the uterus, and another smaller instrument for the parts surrounding the openings of the Fallopian tubes. My observations lead me to think that many cases of failure of the operation are attributable largely, if not solely, to the neglect to remove the diseased mucosa from the angles of the uterine horns. Without a small and pliant instrument this is impossible.

The amount of tissue to be removed in any case cannot be taught by book but must be determined by expérience and an educated touch; for as the blind learn to recognize the form and color of objects through the acuteness of the senses, so the operator learns to interpret from the feel of the instrument in his hand just where the line of demarkation lies, beyond which it were unwise to penetrate.

Following the curetting the cavity of the uterus should be well douched with some antiseptic lotion to remove all remnants of debris, and then, having been dried as well as possible, a drain of iodoform gauze is carried well up to the fundus. In many cases a strip of gauze from one to two inches wide and twelve to fifteen inches long, is all that is required for this purpose; but not infrequently it will be found desirable to pack the entire cavity tightly, when fully a yard and a half of the gauze will be necessary. For packing in the gauze I employ the little instrument which I showed you at a recent meeting of the Academy. This has proved very efficient and serviceable in my own, as well as in the hands of others, who have tried it. Finally, the vagina is lightly filled with the gauze, and the operation is completed.



The after-care of the patient must not be neglected on the supposition that the pettiness of the operation demands no further solicitude on the part of the physician. I am sure that much harm may result to the patient from thoughtlessness and want of care in this respect.

Following the operation the patient usually complains only of a certain amount of pelvic soreness and considerable backache; but both of these may become so intensified as to necessitate the administration of an anodyne. The pain rarely lasts more than twenty-four or thirty-six hours, but I have seen instances where pelvic uneasiness has continued for some days after the patient was up and about. On the second or third day the bowels should be freely moved, and kept open thereafter. The nourishment should at first be liquid, and not until the bowels have been thoroughly evacuated, should the patient be allowed to return to a full diet. The vaginal and uterine gauze are usually removed on the third day, but may often be left much longer with advantage. Following this a vaginal douche of carbolic lotion is given night and morning.

The patient should on no account be permitted to leave her bed before the end of a week, and in some instances a longer period in the recumbent position may be advisable.

I have at present under my care a young unmarried woman whose uterine canal was divulsed and curetted by a distinguished Eastern specialist for dysmenorrhea. In a written statement of the case this gentleman positively asserts that beyond the condition for which he operated there was absolutely nothing the matter with the patient. Yet in spite of the treatment the girl has grown steadily worse, and the other day by careful examination under an anesthetic I found that one of her ovaries had become displaced and was tied down by adhesions. Now, I cannot for a moment think of disputing the statement of her former medical attendant, whose ability as a gynecologist is well-known on two continents, but by careful inquiry, from the mother of the patient, I think that I have discovered the reason for the latter's condition—a condition which evidently was not present when she was last seen by the physician who operated. The whole secret of her present increased sufferings are due to the dislocated and imprisoned ovary, which unquestionably was brought about by a negligence and slack oversight in the after-treatment following the operation.

Another untoward result of curettage, which has recently been brought to notice, is superinvolution of the uterus.* As a result of the removal of the diseased mucous membrane and the subsequent drainage, a lessening in the size of the corpus uteri is expected to take place, and is always desirable in those cases where the organ has become enlarged and heavy from a chronic inflammation. As a rule, when the operation has been properly carried out, this process of restitution goes no farther than the normal limits, but in rare instances, possibly where too energetic efforts have been displayed by the operator, the normal mark is passed, and the uterus continues to diminish in size, until it has reached a point as far in the other extreme as it was in the one before the operation. No instance of this kind has ever happened in my experience, but it seems to me that a condition of this nature could be wholly obviated by a little care and attention on the part of the physician as soon as involution is seen to have advanced beyond its natural boundary. Many patients, of course, are lost sight of as soon as recovery from the operation has taken place, and it is therefore possible that, in certain instances, atrophy may occur and the condition not be discovered until a much later period.

Adhesion of the walls, following curettage, and partial or complete obliteration of the uterine canal is another sequela, several cases of which have been reported in Germany.† These cases were, I believe, all postpuerperal ones. I do not recall an instance in which adhesion has taken place except in a uterus which has been comparatively recently pregnant, in any of the reports. It is quite easy to understand how such a result might take place, and it would appear equally easy to demonstrate how it may be avoided. If the raw and lacerated surfaces left by the curette are prevented from coming together by the insertion of an antiseptic gauze into the uterine cavity, and this gauze is allowed

*Vineburg: *Medical Record,* 1895.

†Fritsch: *Centralblatt fur Gynakologie,* 1894, page 1337. O. Kustner: *Centralblatt fur Gynakologie,* 1895, page 809.

to remain until a partial or complete relining of that cavity by the upgrowth and extension of the epithelium of the glands and an extrusion of the so-called decidua-forming corpuscles have taken place, there would seem to be little reason for apprehension that obliteration of the canal will result. The restoration of the lining of the womb-cavity following menstruation is estimated to be completed in about seven days. After curettage the replacement of the mucosa undoubtedly requires more time as more or all of this tissue has been removed, but it is altogether probable that after three or four days the healing process has sufficiently advanced to prevent the adhesion and uniting of the opposed surfaces. In instances where curettage is undertaken within the first few weeks following delivery, in order to wholly obviate such a misadventure as obliteration of the canal by the adhesion of the involuting uterine walls, it would be advisable to leave the gauze packing *in situ* for at least a week, or in the event of the original gauze becoming choked by the secretions and giving rise to irritation, to repack. This repacking should be carried out under the same rigid antiseptic precautions as were observed during the operation.

In the second class of cases, namely, the puerperal, it may be put down as a general rule that, whenever following abortion or normal labor, a sudden rise of temperature, with other accompanying symptoms, takes place, which, after thorough and careful investigation of the patient, cannot be otherwise accounted for, it is within safe limits to ascribe the source of the disorder to the uterus. And it makes little difference whether the condition be one of simple sapremia, or the more serious septic absorption, the curette and uterine drainage should be immediately resorted to. Such cases book no delay, and the earlier that the offending structures are removed, the better are the chances for successful recovery. I believe that most, if not all, cases of this nature, which so often terminate fatally, or at least lead to a tedious and prolonged convalescence, can be effectually relieved and saved by the inauguration of prompt operative measures.

A variety of this form of puerperal malady, which I have denominated "late puerperal infection," and described in a paper before the State Medical Society in 1893, differs from the usual form of infection only in the tardiness of the development of the symptoms, the condition coming on a week or more following delivery, and at a time when the woman is generally supposed to have passed the danger point as far as infection is concerned. In this paper I point out "that a subacute localized inflammation at some point on the inner surface of the uterus may often exist, but which, on account of the absence of marked symptoms, is often overlooked. Such an inflammatory spot would furnish a point of localization for germs introduced by the examining finger, syringe nozzle or other means." Prompt curettage in cases of this kind will lead to a happy and successful result.

It is a grave error to think that, in order to get a septic infection developing from the interior of the uterus after delivery or abortion, there must necessarily be present portions of retained placenta or membranes. If it is remembered that in the casting of the afterbirth, only a part of the decidua is stripped off, and that the remaining portion of that structure is in a disintegrating condition, it will be understood how readily septic germs may find a nidus at any point in the uterine cavity, and there developing, become disseminated throughout the organism by means of the blood current and the lymphatic channels. In very many of these cases where I have done curettage, only the smallest amount of material has been removed, yet the breaking up of the germ-nest has resulted in complete recovery.

Preliminary dilatation of the uterine cánal is usually unnecessary in puerperal cases as the parts are generally still sufficiently open from the recent delivery, but at times, and especially after abortion, this preliminary step must be taken.

As the size of the cavity of the puerperal uterus is very considerably increased over that of the unimpregnated organ, a much larger quantity of gauze will be required to fill out its space, from five to ten yards of the two-inch-wide material being frequently necessary for this purpose. The preliminary douching to wash out the loose material before inserting the gauze is here of much greater importance than in the other class of cases, and the final packing of the vagina is carried out as noted above. Infection being most apt to come from without in puerperæ, the external genitals should be covered by a thick layer of the gauze, which must be changed as often as the flow from the vagina renders necessary.* The most common accident which may occur during a curettage of the puerperæ uterus is perforation. The walls of the organ are at this time soft, and sometimes quite thin, so that undue force in the handling of the instrument might cause it to penetrate into the peritoneal cavity. Under the strictest antiseptic measures, such a misfortune might not lead to harmful results, but cases of fatal peritonitis, set up by perforation of the uterus, and prolapse of the intestine through a rent thus made† has been reported. The utmost care should therefore be exercised in using the curette in these cases.

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*Further discussion of this subject will be found in papers by the writer. "Abortion—Its Immediate and Remote Effects with Reference to Treatment:" *The American Lancet*, February, 1892. "Uterine Curettage:" *Harper Hospital Bulletin*, April, 1895.

†Alberti: *Centralblat fur Gynakolgie*, 1894, Number L.

SOME COMMON POINTS IN MINOR SURGERY.*

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I trust I shall not be thought too commonplace in my choice of a subject if I ask you, for a few moments, to descend from the heights and consider some of the common things of everyday life, to leave for a moment appendicitis, its varieties and necessities, the intricacies of problems gynecological and ophthalmological, while we talk plainly and familiarly about some common points of minor surgery, which observation has shown me are often, insufficiently grasped, if not absolutely misunderstood, by general practitioners, to whom the majority of these cases go.

An experience of over four hundred surgical cases, in the last three years, most of which have been cases of minor surgery, has given me food for thought on these things, and much that I shall say has been the outcome of observations and thought in connection with these cases.

In this day and age it goes without saying that, if best results are to be secured, we must apply to minor surgery precisely those principles which obtain in more extensive work. While of course no one is so blind to the present position of surgery as to wilfully or utterly ignore all antiseptic or aseptic precautions in his minor work, yet how easy it is to neglect important points, to handle an open wound or a crushed hand or foot with hands not made surgically clean, and how often do we see things, the asepsis of which could be well doubted, applied with the greatest carelessness to surfaces which should be kept as aseptic as possible. Asepsis and antisepsis are the keystone of the surgical arch of today, and he who doubts it or neglects all effort to carry out their principles, fails to do himself or patient justice, and fails to give the latter the benefit of that to which he is justly entitled.

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*Read before the Detroit Academy of Medicine.

All this may sound trite and commonplace to the last degree, but it is wholesome now and then to think more carefully of the trivial and small things of life, those minutiæ, careful attention to which is so essential to successful results.

It is not my purpose here to lay down hard and fast rules, compliance with which alone will ensure the attainment of such ends, save, perhaps, those very general rules which lie at the foundation of modern surgical procedure and which may be summed up in the broad advice to seek always to keep your wound and adjacent parts as nearly aseptic as possible.

It is little short of ridiculous and is truly comical to note the ardor with which one surgeon declares good work impossible unless he can have a certain solution of bichloride; another insists on his carbolic acid; another upon some other solution of choice. All are right and all are wrong, for the broadest man is he who is not bound to one thing nor two, but is a man of many resources, who keeps ever in his mind's eye the one thing to be accomplished, realizes that this is possible through many agencies, and makes himself the slave of none. Many are the means by which a wound and its surroundings may be made surgically clean, aseptic, and many the methods by which it may be kept so.

Just as many men are wedded to certain cleansing and antiseptic solutions, so the array of chemical dressings is not a small one. More are probably addicted to the use of the ill-smelling iodoform than to any one agent and many believe that to the successful after-treatment of a wound this odoriferous substance is positively essential. It has its uses; its odor ought certainly to discourage the most energetic bacillus or coccus, and there are cases in which I believe its application may have some effect in lessening pain; but in the majority of cases it may be safely superseded by less objectionable agents. I recall hearing that brilliant surgeon, the late DOCTOR HENRY B. SANDS, say, in 1887, while one day at Roosevelt Hospital, dusting the site of an operation with iodoform: "I hope the day will come when I can discard the use of iodoform in my service here, but I do not yet feel that I can safely do without it."

Boric acid had been then used somewhat, aristol and europhen have since made their appearance. Against the latter two may be urged their expense. This may be very materially diminished by combining aristol with boric acid and I have used with great satisfaction a mixture of the two, of each fifty per cent., and with equally good results one part of aristol to four parts of boric acid. In the case of an amputation of finger in which this dressing was used, the stump had healed firmly and without one untoward symptom by the end of the third week.

The subiodide of bismuth, a brick-red powder, possesses virtues as an antiseptic, and though I have heard or seen little said of its use in this way, I have used it with excellent results in a number of cases. Caution should be given against using it too plentifully, as, if used too freely, it forms a gummy crust over the wound, especially if there is any oozing, and to this fabric dressings adhere in an annoying way. The same objection, though to a less extent, may be urged against the other powder dressings mentioned. Used carefully and in small quantity these powders help to keep the wound and its vicinity dry and aseptic and they thus facilitate healing. I think I have seldom or never seen them positively harmful and especially in wounds, which tend to ooze a little, they are an advantage in drying up the small amount of secretion. It seems to me that their efficient use is limited to those wounds, which we may fairly hope to keep quite dry.

From the list of such aids, acetanilid should not be omitted, and only recently I note that one of the German surgeons has used it extensively and with success as a surgical dressing. Because of the cases of poisoning from such use recently reported, its use can be admitted only with great caution.

Some of these (though I have not attempted to exhaust the list) both in point of expense and efficiency may be urged as satisfactory substitutes for iodoform. In speaking of *substitutes* for the latter I should not wish to be misunderstood nor as implying the necessity for some chemical dressing, for many wounds, when a good condition of asepsis is secured, do equally well without any such application whatever.

Some surgeons are especially devoted to the entirely dry treatment of wounds and to them these dressings are a material aid. The prime object, however, is not so much to keep a wound either dry or moist as to keep it as nearly aseptic as possible.

Another class of agents may be mentioned because of their still too frequent and ill-advised use, and the very limited field which they legitimately have in surgery. I refer to the ointments, so-called salves, the vaselines, et cetera. It is but a few years since contused or lacerated wounds were commonly treated in surgeons' offices with a "dab" of carbolized vaseline, or an ointment on cotton, applied directly to the skin, a dressing at the same time nasty and inefficient, and even worse, for healing is in these cases usually positively retarded, and the day has come when such a dressing is an opprobrium rather than a credit and can no longer stand as a mark of progressive surgery. Have you ever watched the healing of a contused and lacerated wound of the finger under carbolized vaseline, and have you noted the sluggish healing, the mushy appearance of the tissues, the whitened and soggy condition of the skin? Surely there is nothing healthy about this and it is far from simulating any effort of nature to effect a prompt repair. Contrast it, if you please, with the action in a similar case, treated without other application than a bandage over antiseptic gauze, and you will wish to speed the day when such dressings shall no longer be seen. The philosophy of greasy applications to healthy tissues has never been apparent to me; their use is, I am sure (save in burns), unsurgical, and the passing of the ointment from (traumatic) surgery may be a fit theme for congratulation.

In burns, for excluding air for the first few days, the ointments may find some excuse for their existence in this field. Even here they will best be early discarded and the separation of the slough be best hastened by a simple water dressing or one of normal saline solution, which dressing I have found to give the greatest comfort in these cases. The applications are many and the customs varied, indeed, which are in vogue in the treatment of burns. Not only are greasy dressings applied by many with a persistence worthy of a better cause but I have seen a nasty, sticky, pitchy compound applied to burns for days, to which any sort of fabric dressing will adhere most tenaciously and painfully. I have seen cases in which such a dressing had been applied for days with almost constant discomfort to the patient and in total disregard of foul and sloughing skin which nature was endeavoring to separate and throw off, and which this sticky dressing had held in place, until the whole burn was foul and nasty and unsurgical in the extreme. Cases once came into my hands in which not less than two hours was required to remove the gummy masses left by this unsurgical dressing. There can, I think, be no reasonable doubt that, as soon as the first discomfort is past, the only proper way to treat these cases is to discard greasy or other unsurgical dressings, and apply such means as may hasten the separation of the slough and place the wounds upon a truly surgical basis for the promptest repair. When a healthy granulating surface is secured, skin-grafting will materially hasten the desired end.

Not all wounds may be kept aseptic, in spite of the careful efforts of the surgeon. This may ensue from the difficulty with which the original wounds could be cleansed; from grease, wood, or other foreign matter being ground into the wound, and inadvertently left there; from sutures or ligatures of catgut, which prove to be not aseptic; or even from a careless technique on the part of the surgeon. This latter cause is certainly not so infrequent as we would like to think it, nor is it necessary to go out of the city to encounter the most careless neglect of even the most ordinary precautions..

Our object must then be to free the wound as far as possible of the different cocci, prevent bacterial action, and so favor reparative processes. As an agent to this end, the peroxide of hydrogen has been loudly extolled. I think in some quarters its virtues have been largely overestimated. I have repeatedly made comparative tests of the efficiency of a 1–2000 solution of the bichloride of mercury and a full-strength fifteen-volume solution of the peroxide of hydrogen. An infected finger to which the peroxide was most carefully applied and in which it was finally soaked, showed just as much pus on the following morning. After a careful application of a 1–2000 solution of bichloride and a similar soaking in this solution, on the following day the finger showed very little pus indeed. This test, while perhaps crude and not entirely satisfactory to the bacteriologist, seems nevertheless of some practical value and its implication is evident.

Now, as to (fabric) dressings, as distinguished from chemical applications. I have repeatedly had patients come to me from other surgeons with absorbent cotton applied directly to an open or sutured wound. I wish to enter my protest against the direct application of cotton to any wound as a most unsurgical procedure. Cotton should be excluded from any dressing likely to be saturated with blood or serum. There may be some wounds which it is desirable to cover with rubber tissue, but undoubtedly the neatest, most surgical and most comfortable direct covering for wounds is an antiseptic gauze, now so beautifully made and neatly put up by several manufacturers. Either the plain sterilized, borated, carbolated or bichloride, moist or dry, may be had. For general use, I like the moist bichloride gauze and use it daily. This may be covered either directly with a gauze bandage or by absorbent cotton and then by a bandage. I speak particularly of a gauze bandage because for general use it is neater and more comfortable than any other. Fingers bandaged with the coarse unbleached cotton bandage so frequently seen look clumsy, unwieldy, and the fabric is often stiff and uncomfortable for the patient. The gauze is neat, light, adapts itself readily to any surface, and is not now very expensive. It certainly is preferable to any other that I know of and its neatness is a point worthy of attention.

This is but a hasty and imperfect reference to some very common points in minor surgery. I mention them (1) to emphasize the extreme importance of strict and careful attention to the principles of aseptic and antiseptic surgery, even in minor work, and (2) to make a plea for more efficient and careful work in this line, and (3) to call to mind that whatever is worth doing is worth doing well, and that attention to neatness and cleanliness in the work will only increase its efficiency.

The value of the hour lies not in the meager paper which I offer you, but in the points of discussion which I hope to provoke.

BRAIN SURGERY.*

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[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

THE student of current medical literature often reads articles describing all sorts of operations upon the brain, and has his curiosity aroused. In the literary treatment of these operations interest is kept keenly alive and the story flows with more or less grace and beauty until the climax is reached in the recovery or death of the patient. Sometimes there is an addendum or sequel, in which details of after-treatment and of autopsy are described in a style distinguished for terseness and brevity. Frequently the legends, "no autopsy," "autopsy refused," "uneventful recovery," uninterrupted convalescence," occur with a suddenness that makes the reader feel as though something had been torn out of his book or the article was to be continued in some future issue. This feature of the writings upon brain surgery is shocking to physicians of fine literary taste, is a direct contravention of the rules of rhetoric, composition and style, but is unavoidable and necessary in the maintenance of the *modus vivendi* in up-to-date surgery.

The literature of all great advances in medicine has been marred and botched by like unevenness and irregularity in the earlier periods of their history. HARVEY's earliest writings on the circulation of the blood did not please the critics. McDOWELL's descriptions of his first ovariotomies were not satisfactory to medical literati of the old world or the new. Enterprising and aggressive brain surgeons will not be diverted from their purpose to achieve a step forward in the diagnosis and treatment of brain diseases, by the ridicule and sarcasm of persons who are only qualified to criticise the clothes in which ideas are dressed.

What are the advances that have really been made by surgery in the treatment of diseases of the brain? They are many but I will enumerate a few:

*Read before the WAYNE COUNTY MEDICAL SOCIETY.

(1) Fractures of the skull are better understood and treated. The determination of the frequency of cerebral compression due to fracture of the skull and laceration of the middle meningeal artery and its treatment by trephining, removal of the clot and control of hemorrhage.

(2) Location and treatment of cerebral and meningeal abscess by interpretation of the microorganic causes of abscess, cerebral localization, and the use of trephine, chisel, suture, drainage tube and gauze saved many lives.

(3) Diagnosis of brain cysts, gumma and effusions and their treatment by extirpation and drainage. Cysts of considerable size can be localized, and when their extirpation is impracticable they can be incised, their margins stitched to the scalp and their cavities washed with iodine solutions until they are destroyed and the disturbances which they create end in the health of the patient. Gummata can be localized, edema relieved by trephining and drainage and iodide of potash caused to act with renewed vigor in eliminating syphilis of the brain.

The foundation upon which rests these improvements in medical resources is a better understanding of physiology. This science has been most useful to surgery, and will continue to be, if it is cultivated industriously. We are indebted to physiology, in the broad sense of the term, for existing knowledge of bacteriology, which has given us better treatment of wounds, and the better treatment of wounds has enabled us to open the cranial cavity, incise the membranes and explore the subarachnoid space and the cerebral tissues without destroying the lives of our patients and, in consequence, many facts bearing upon the pathology of cerebral diseases have been determined and from them have been deduced surgical rules which, when strictly followed, save human lives.

I have often thought I would like to know what drove the trephine out of surgery, for we know that it was of frequent use among prehistoric peoples and among the ancients and that its use practically disappeared for more than one hundred years. There must have been some good reason for its abandonment. Its revival has been swift and its work today is as certain as the diagnosis upon which its use is based. There must be some good reason why its use was so long neglected, as its value must have been understood by the ancients else it could not have been so often resorted to. Is it possible, if I may hazard a guess, that all which we today practice under the name of antisepsis and asepsis, rests upon no surer foundation than a baseless fabric of a dream, and that our recoveries from operations within the cranium are due to the disappearance of organisms which in former years were the common occurrence, infecting wounds and leading to inflammation which almost invariably terminated in the death of the patient. Types of life, both animal and vegetable, are constantly disappearing. The elder DARWIN put this idea into verse when he said,

> "Organic forms chemic changes strive,
> Live but to die, and die but to revive,"

as nearly as I can remember the words. It is reasonable to assume that these different forms of life possess different attributes, that some of them may have had the faculty of producing inflammatory changes in wounds analogous to those that we now see following when wounds are affected with streptococci, and that there may have been living in this world during the one hundred years when the trephine was not in use, a form of organism possessing properties which rendered operations upon the brain and its membranes fatal. It is reasonable to assume that this organism has disappeared, as the streptococci of erysipelas have almost disappeared, and as the plasmodium of malaria has quite vanished. Within the memory of many men now living, malarial fever and ague were of almost universal occurrence in the United States; highlands and lowlands were in turn affected. Suppuration of wounds was more frequent during those times; it was not uncommon for simple fractures to end in suppuration. That the causes of these fevers and suppurations have disappeared, admits of no reasonable doubt, and by analogy it is fair to assume that their absence has had more to do with the great advance in modern surgery than the rules of asepsis and antisepsis.

A REPORT OF THREE CASES OF OPERATIVE APPENDICITIS.*

By W. P. GAMBER, M. D., STANTON, MICHIGAN.

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In reporting these cases I do not presume to teach you anything new about appendicitis. There is perhaps no disease which presents a greater variety of symptoms, especially when we include the various complications arising with it, and it is only by an analysis of the various cases that we are able to become more proficient in their successful management.

CASE I.—*Subperitoneal Abscess; Operation; Recovery.*—Mr. E., aged fifty-nine; painter and paper-hanger by trade. I was called to see him July 3, 1894. He was taken sick two days previously with a chill, which was accompanied by more or less pain throughout the abdomen. His previous health was good. Pain now limited to McBURNEYS' point, but not severe enough to require opiates. Temperature, 102.5°, but in forty-eight hours it dropped to normal where it remained for several days.

Feeling confident that this was a case of appendicitis he was advised to remain quiet in bed until the soreness disappeared, and that by so doing, he might avoid an operation. This advice he did not heed, however. He felt like getting up and did so. Walking about the house aggravated the pain and in a few days his fever returned, lasting three or four days. After a few days absence of fever it again returned, lasting about the same. At about this time DOCTOR L. S. GRISWOLD, of Big Rapids, was called in consultation. My diagnosis was confirmed by him and an operation advised, but as the symptoms were not urgent it was deferred for the time being. During the next six weeks he continued about the same, except that he was gradually growing weaker. The fever still continued to return once a week, each time lasting about three days; and, as he expressed it himself, he had the better of it a little more than one-half of the time. This served to stimulate his hope of getting well without an operation. Finally, on the 11th day of September, without openly giving his consent, he said: "I have stopped dictating." His wife then said: "Prepare and operate;" so on the 13th day of September, DOCTOR GRISWOLD arrived from Big Rapids and we operated.

An abscess cavity, containing about one-half pint of greenish, foul-smelling pus, was found subperitoneal. There were two places where this cavity tended to point toward the external surface, one just above the middle of POUPART'S ligament on the right side, and the other at the upper crest of the ilium about four inches posterior to its anterior superior spine. Openings were made at these points and a rubber drainage tube put *in situ*. He recovered nicely from the shock and after four days there was slow and continuous improvement without any rise of temperature. The cavity was cleansed twice daily, the drainage tube gradually removed, and in two weeks was replaced by gauze. On election day, November 6, the wound was entirely healed, and he rode in his carriage to the polls and voted.

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*Read before the GRAND RAPIDS ACADEMY OF MEDICINE.

A bacteriological examination of the contents of this cavity showed the following germs present: bacillus coli communis, staphylococcus, bacillus pyocyaneus and streptococcus.

The general peritoneal cavity was not opened and so far as we know this man still has his appendix.

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CASE II.—*General Suppurative Peritonitis; Death; Autopsy.*—Miss R., aged sixteen. She was taken sick in bed September 4, 1894. During the four weeks previous she complained of feeling languid, with loss of appetite. I was called September 5, at which time the temperature was 100.5°; pulse, 125.

On September 6 and 7 the temperature and pulse were about the same, with a tendency to profuse diarrhea and marked tenderness extending from McBURNEY's point upward along the course of the ascending colon. September 8: Temperature, 99.5°; pulse, 100. September, 9: Temperature, normal; pulse, 80; and with general improvement. I did not see her again until September 11, at which time the tenderness in the right iliac region was increasing. Temperature, 102°; pulse, 120. September 12: Temperature, 103°; pulse, 125. The pain and tenderness had increased some, extending across lower part of abdomen. I was, by this time, about convinced that it was a case of general peritonitis due to perforation of the appendix; or, that possibly it might be due to perforation of a typhoid ulceration. The day following, September 13, an experienced surgeon was called in consultation. After a thorough examination and careful consideration of all the symptoms, he gave it as his opinion that the case more strongly favored typhoid fever. The temperature at this time was 102°; pulse, 120. During the next few days the temperature remained about 101.5°; pulse, 125; and I had now become satisfied that it was a case of general suppurative peritonitis, but owing to general paresis of bowels which had become apparent, and some edema over a portion of the abdomen, it presented itself to me as a hopeless case for operation. After a few days more she suddenly went into a state of collapse, after which she only lasted seven hours.

Autopsy.—Peritoneal cavity contained about one and one-half pints of pus, having a fecal odor. The parietal peritoneum to within an inch of umbilicus, but some higher on the right than on the left side, was inflamed and thickened, and a large portion of it had sloughed off, leaving the abdominal muscles bare. The appendix was folded on the cecum posteriorly and to the right, where it had become firmly adherent at distal extremity. The end of the appendix had sloughed off, leaving the diseased end in a necrotic condition. The opening of the sloughing end was free and allowed passage of fecal matter into the peritoneal cavity. The only place where the visceral peritoneum was affected, was posterior and to the right lateral side of the lower three inches of ascending colon. The tissues about this point were quite extensively necrotic and it seemed to be the original site of a once walled-in abscess cavity which included the necrotic end of the appendix, and that the second rise of temperature was the result of the rupture of this abscess cavity into the general peritoneal cavity.

A bacteriological examination showed the following germs present: bacillus coli communis, streptococcus and staphylococcus.

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CASE III.—*General Suppurative Peritonitis; Operation; Recovery.*—Mrs. B., aged thirty. I was called to see her June 25, 1895. She had been suffering four or five days with marked tenderness at MCBURNEY's point. On Monday, June 24, she did her washing. During Monday night this pain was intensified and on Tuesday morning when I was called she was suffering with paroxysms of severe pain, which by 10 o'clock, A. M., had become so severe that it was necessary to resort to hypodermic injections of morphine. Diagnosis was now made of appendicitis with probable perforation. The temperature began rising about noon and at 8 o'clock P. M., it was 101.5°.

On June 26, the pain and tenderness over abdomen was becoming general. Morning temperature, 99.5°; evening temperature, 102.8°. It was quite apparent that there was peritonitis, and that it was rapidly becoming general. DOCTOR GRISWOLD, of Big Rapids, was called. He came the next morning, June 27, and concurring in my diagnosis, we proceeded at once to operate, which was at this time about forty-eight hours after I was first called.

After making the usual vertical lateral incision and opening into the abdominal cavity, about one-half pint of pus escaped from the general peritoneal cavity. The parietal peritoneum and the visceral peritoneum covering the cecum, the lower part of ascending colon, and of the appendix were very much congested and intensely red. The appendix was perforated on the anterior surface about one-half inch from the cecal end. This was removed, the peritoneal cavity thoroughly flushed with warm sterilized water, a glass drainage tube put in place, and the wound closed except one provisional stitch. She recovered nicely from the shock of the operation and for the first seven days following everything progressed to our satisfaction and the temperature gradually declined to near the normal point. During the next four days there was a gradual rise in the temperature until it reached 101.5°, and I became very anxious, fearing that there was still an abscess cavity somewhere within the abdominal cavity, but we were soon pleased to learn that it was nothing but a stitch abscess.

When the pus is required to flow out over the freshly cut tissues we could hardly expect the escape of infection. There was pus formed about the deep stitches which brought the muscular tissues together. After the maximum temperature, as stated above, was reached from this cause it gradually declined and became normal on the fifteenth day after the operation and so remained. The glass drainage tube which was difficult to keep in place after a few days, was replaced on the fifth day with a rubber coil of smaller caliber and this was again replaced on the tenth day with gauze. By the eighteenth day there was no more discharge, the gauze was removed, and the provisional stitch closed. The wound was all healed at the end of the fourth week, and during the seventh week she was about the house doing light housework, and at the present time (October 21, 1895) she is enjoying good health.

A bacteriological examination showed this pus to contain the following microorganisms: bacillus coli communis and staphylococcus.

It is perhaps unnecessary to say that the dressings of these wounds and the operations were done under strictly aseptic precautions according to modern surgery. Because a wound is infected is no reason why we should not follow this precaution as we would in uninfected wounds, for it is not to be expected that we have all the disease germs capable of doing harm in any one pus cavity; so then, it is ever necessary to be cautious and not introduce other kinds of micro-organisms, or even others of a more virulent nature of the same kind.

THE COAL TAR ANTIPYRETICS.*

By CHARLES G. JENNINGS, M. D., Detroit, Michigan.

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I SHALL speak of the coal tar antipyretics only in their application to acute disease for the relief of fever, pain, and increased irritability of the reflex centres. As drugs for the reduction of abnormal high temperature they stand preeminent. Before their introduction we had no remedy that would promptly and surely reduce fever except the bath, and the efficacy of this measure was not in those days well appreciated. For the reduction of fever by the internal administration of drugs, dependence was placed upon diaphoretics, or cardiac and circulatory depressants, of which aconite is the type. Aconite, as a pure antipyretic in sthenic acute diseases, is satisfactory, when compared to the coal tar antipyretics, only to the homeopathic mind, accustomed to drug action so vague and dilatory as to closely simulate the remedial effect of time.

The bath in certain conditions is irreplacable. When a prompt and tonic antipyretic is indicated nothing can replace it, and what I may say in favor of the coal tar antipyretics is not to be understood as detracting in the least from its virtue. As analgesics, Doctor Hare, in a recent review, says:

"As short a time back as 1884 we had no reliable drug for the relief of any form of severe pain save opium or one of its derivatives, yet since that time antipyrin, acetanalid and phenacetin have relieved an amount of human misery, resulting from painful manifestations of functional or organic nervous diseases, which it is not in the power of the human mind to estimate, and this, too, in most cases without any ill-effects, such as follow the opiates. Only the vivid picture of a crisis in locomotor ataxia, or the agony of a true migraine can impress the observer with the full value of these analgesics. Nor have these products proved themselves limited to any one class of cases. They have proved a perfect wonderland of useful application, and there is certainly no drug ever discovered which is so universally applicable as antipyrin, the powers of which are almost as diverse as disease itself."

As our knowledge of the pathology of fever is still unsettled the mode of action of an antipyretic must be imperfectly known. As a working theory of heat regulation that of MacAlister, with which you all are familiar, serves well to give us an insight into the probable action of an antipyretic remedy. Briefly, MacAlister considers the fever mechanism under three heads: (1) the thermogenic, or heat producing mechanism; (2) the thermolytic, or heat dissipating mechanism; (3) the thermotaxic, or heat regulating mechanism, whose office it is to exert a controlling influence upon the mechanism for the production and dissipation of heat.

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*Read before the Detroit Medical and Library Association.

Thermolysis, heat dissipation, is well understood. It takes place chiefly through the blood-vessels and sweat glands of the skin and is under the control of vasoconstrictor and vasodilator centres in the medulla. About twenty per cent. of the heat loss is through the respiratory organs.

Less is known of thermogenesis, and only recently has its connection with the nervous system been demonstrated. The muscles are the seat of heat production, developing four-fifths of the body heat in health while the remainder is produced in the secretory organs. In pyrexia secretion is checked and the muscles are almost the sole producers of heat. Physiological experiments have located heat-producing centres in the optic thalamus and corpus striatum. WOOD sums up our knowledge of head-production thus: "Heat-production is regulated by a nervous apparatus of which the knowledge is still imperfect. There is certainly an inhibitory centre which depresses or controls the production of heat. It probably does this by acting on the trophic cells of the gray matter of the spinal cord. It is possible also that there is a centre which, when excited, increases tissue change, but its existence has not yet been proved."

Still less is known of the thermotaxic mechanism. It is probably absent in the cold blooded animals and is perfectly developed only in the adult man. OTT places the thermotaxic centre in the cortex near the fissure of ROLANDO. The easily disturbed temperature of the infant and young child is thought to be due to an immature thermotaxic mechanism.

Without further discussing theories, fever, according to our best knowledge, "is a disturbance of calorification in which, through the nervous system, heat-dissipation and heat-production are both affected." The central disturbance results from the toxic influence of products of tissue necrosis or of microbic growth. Certain pyrexias also result from noninflammatory lesions in the nerve centres.

My own experience with the coal tar antipyretics is confined to antipyrin, acetanilid and phenacetin, the ones in common use. Studies upon the physiological action of these drugs are by no means as full as they should be. Antipyrin has received the most attention. The results of the various experiments are fairly uniform. In moderate doses antipyrin depresses the reflex function of the cord. It acts as an anodyne to the sensory nerves. Its antipyretic properties are due to the direct action of the drug on the heat centres, inhibiting heat-production and stimulating heat-dissipation. The respiration is accelerated. The effects upon the heart and circulation are formulated by DOCTORS CERNA and CARTER thus: "(1) In small and moderate amounts it produces a rise of the arterial pressure, this stimulating effect being due to an action on the heart. (2) A lowering of the pressure by large and toxic doses is due similarly to a depressant action of the drug upon the cardiac organ. The remedy does not appear to affect the vaso-motor system. (3) Antipyrin causes an increase in the pulse-rate through paralysis of the cardioinhibitory centres. The secondary decrease in the number of pulsations is of a purely cardiac origin, the drug exercising a depressant effect upon the heart itself." Upon the blood moderate doses produce no effect. In large or toxic doses the hemoglobin is changed into methemoglobin. There are no alterations in the corpuscles. Acetanilid and phenacetin have a similar physiologic action. Of the action of phenacetin on the heart and circulation CERNA and CARTER conclude: "(1) Phenacetin in moderate doses causes a rise of the arterial pressure by acting upon the heart, and probably likewise by a stimulating influence exercises on the vasomotor system. (2) In large amounts it causes a reduction in the pressure, which is largely of cardiac origin. (3) In small doses it increases the force of the heart by a direct action. (4) It increases the pulse-rate chiefly by cardiac stimulation, and possibly also by influencing the cardioaccelerating apparatus. (5) In large quantities the drug reduces the number of pulsations, primarily by stimulating the cardioinhibitory centres, and later by a depressant action on the heart. They also found that in large amounts it caused a marked quickening of the respiratory movements by a direct action on the medulla, and that where sufficient quantities were given to produce death it was due to respiratory failure."

To more closely define the field of usefulness of the coal tar antipyretics we may briefly, at this time, note the action of aconite and the bath in the reduction of pyrexia.

Aconite depresses the functional activity of the perceptive centres, the sensory side of the cord and the peripheral ends of the sensory nerves. By direct depressant action on the heart muscle it lowers the rate and force of the heart's action and diminishes blood pressure. It reduces fever by its action on the thermolytic mechanism, heat radiation being increased by relaxation of the capillaries and impaired circulation.

The cool or cold bath reduces temperature (1) by the direct abstraction of body heat; (2) by its action on the thermolytic mechanism; (3) probably to a certain extent by diminishing heat production. The distinguishing feature of the action of the bath is the reflex stimulation of the perceptive, cardiac, respiratory, vasomotor, trophic and secreting centres. This action explains its beneficial influence in grave and prolonged toxic pyrexias.

Clinical experience has shown certain differences in the action of the coal tar antipyretics that are important. Antipyrin often acts as a gastric irritant, causing nausea and vomiting. Acetanilid is less of an irritant, and phenacetin can be administered for long periods without disturbing digestion. Antipyrin more frequently causes urticaria and other rashes.

By far the most important difference in the action of the three drugs is in their relative liability to produce unexpected and alarming results. Not infrequently antipyrin in large or even moderate doses causes a rapid and weakened heart's action, cyanosis, shallow respirations, vertigo and other disturbances of circulation and sensation. This is the one great drawback to this remarkable antipyretic and analgesic, and to it may be ascribed its diminished use. Only twice in my experience have I been disturbed by its toxic action and then the results were due to injudicious administration. I believe that, with a careful consideration of cases, and a more moderate dosage these unpleasant symptoms would rarely be seen. The possibility of their results should teach caution in the use of the drug in cases of cardiac debility, respiratory or renal insufficiency, and in the aged.

Identical toxic phenomena may result from the administration of acetanilid, although more rarely, and they still more rarely attend the administration of phenacetin. Although over-dosage with both of these drugs gives rise often to profuse sweating and cyanosis, their toxicity is overestimated and these phenomena are rarely attended by severe cardiac depression. The cyanosis is rather a danger signal far in advance of any serious consequences. It is of short duration and is readily overcome. It is often erroneously thought to be due solely to cardiac and respiratory depression. It is due to the production of methemoglobin, and the medullary disturbances are secondary to the blood state and not the result of direct action of the drug on the nerve centres. Several times I have seen cyanosis from acetanilid, almost always, I believe, from amateur administration; and in a constant experience with phenacetin since its introduction I have yet to observe an unpleasant result aside from excessive perspiration. From my own observation I am led to believe that the cries of alarm come most frequently from those whose experience with these drugs is limited and has been injudicious.

The dosage of these drugs is often too great. I place the ordinary maximum adult beginning doses for antipyrin, ten grains; phenacetin, six grains; acetanilid, five grains, repeated every hour or two for two or three doses, and I direct the discontinuance of the remedy with the onset of perspiration, the beginning decline of temperature or the relief of pain. On account of its solubility antipyrin acts the most rapidly and its effect is the most evanescent. Acetanilid ranks next in rapidity of action and phenacetin is slowest. To the deliberate action of phenacetin is probably due its freedom from unpleasant effects. The soluble antipyrin is the one adapted to rectal and hypodermic use and is most easily administered to infants. Many points in administration and dosage are necessary to the best results. Complete defervescence in an acute pyrexia is rarely necessary or advisable. The administration that will take a degree or two from the apex of the afternoon curve and replace suffering with comfort is all that we desire. The time of the dose in relation to the natural rise and decline of temperature is of importance. When given with the increase of fever the action is slower and within control; when given with the fever at its hight or on the decline, the fall may be sharp and excessive. Continued administration or in combination with the drugs directed to the disease itself is not advisable. These drugs are given only to reduce fever and relieve pain and their action persists for a number of hours. They should be repeated only when their distinct indication arises. They should be given alone and the profession should frown down upon the mongrel complexities with which the manufacturing pharmacists try to dupe us.

It is unnecessary to go over in detail the diseases in which these drugs are most useful. They act as antipyretics and analgesics, and their greatest field of usefulness is in acute sthenic pyrexias. The reduction of temperature in itself is not unusually of importance, but the reduction brings with it a relief of suffering that must appeal to the physician. And this relief of suffering and arrest of wear and tear on the nervous system contributes most markedly to the limitation of many pyrexial conditions and materially hastens convalescence. And it should be emphasized that these drugs do not in necessary doses produce their effect by depressing the heart and circulation as aconite does. To be sure the pulse-rate is diminished and blood pressure ultimately lowered, but this is an indirect action; it is because the pyrexial state stimulates the accelerator cardiac nerves. As the temperature declines under the influence of the antipyretic the heart's action quiets.

Acting as an analgesic and a cerebral sedative, the pyrexial outbursts of children with excessive purturbations of the nervous system, but without inflammatory cause, are most favorably influenced by antipyretics.

In the early stages of malarial fever, pneumonia, erysipelas and the eruptive fevers in strong subjects the antipyretics have a true place. One, two or three moderate doses administered on the upward incline of the temperature curve tend to soften the afternoon and evening of what would otherwise be a trying day. In the convulsions of children either symptomatic or reflex, their action is very gratifying. In the headache and neuralgias of cerebral and cerebrospinal meningitis we have no remedy that will replace them. In one case of meningitis extending over a long period and ultimate recovery, phenacetin was given during the entire course of the disease with only the happiest effect. In acute rheumatism and the various neuralgias, pain is controlled with the certainty of opium and without its unpleasant effects. Cholera morbus with high temperature, vomiting, diarrhea and abdominal pain, is controlled with phenacetin with almost the certainty that it is by the hypodermic injection of morphine. Here I have found it well to combine bismuth or small doses of calomel, or both.

Whooping-cough, asthma, renal colic, angina pectoris, and the pelvic pains of menstruation are some of the afebrile diseases to which these drugs are particularly applicable. It is well to remember that women at the menstrual period are particularly susceptible to cyanosis from antifebrin.

In all prolonged fevers of an adynamic type antipyretics are not indicated, and the peculiar susceptibility of these diseases to their unpleasant action makes it unsafe to experiment with them.

The uses of these drugs in any febrile state does not preclude aconite in sthenic inflammations or the bath for grave hyperpyrexial states. In fact phenacetin with aconite, or phenacetin with the bath, will often accomplish what any one of the three cannot when administered alone.

In puerperal pyrexia, antipyretics are contraindicated, not so much, perhaps, on account of their depressing effect upon the patient, as upon the stimulant effect upon the physician. In the first twenty-four hours, particularly, of a puerperal pyrexia, the temperature range is an important guide in the local therapeutics. Should this index be concealed there is always the danger that the attendant, elated by the artificial drop in temperature, may delay intrauterine medication to the great danger of the patient. And in general it may be said that an antipyretic should be withheld at the onset of disease when the temperature range is important to diagnosis.

FEVER*

By J. J. LYON, M. D., ZILWAUKIE, MICHIGAN.

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IN presenting to you the following remarks on the subject of fever, I wish to do so in a general way only, without any regard to special type, or special continuous treatment on any particular line. Perhaps there is no other single disease with which we have more to deal than this. From the teething infant in the cradle, with its dry but reddened lips, who cries with fear as you approach,

*Read before the SAGINAW COUNTY MEDICAL SOCIETY.

to the strong man with insatiable thirst and burning brain, we are many times called upon to put forth our ablest skill and energy.

In treatment the differences are often necessarily great in our selection of remedies. The child that suffers from an irritable fever cannot from us receive the same medicines as a rule that we expect to give to another with rheumatic fever. Not always is this so, however, for often we find remedies that possess the power of controlling more than one abnormal condition at the same time. I have seen bromide of potash control a fever and diarrhea of three days in a child by a few doses, but who of you are willing to call this remedy a febrifuge or an anticathartic? By its action on the nervous system was the effect attained. Children are subject to sudden impressions which often set up an active fever; it may be from fright, or even disagreements at play with others will often cause it among the smaller ones, especially if the system is somewhat out of order at the time. Who of you have not been called to attend the child that the mother informed you caused her alarm because of the suddenness of the attack, and describes to you just such preceding conditions? Yet you find the little sufferer with high fever, rapid pulse and much mental excitement; you look him over carefully but still you fail to find any pathological condition to produce it. You get no special determination of blood to the lungs, and no tenderness over the liver or kidneys. One thing you do see is a necessity as soon as possible to procure rest for those around by quieting the child. Whether you do this by giving a full dose of paregoric, hyoscyamus or phenacetin it matters not much, for after the rest the fever begins to lower and these remedies continued in small doses quickly promote recovery.

Do I hear someone say *aconite* in this place? If so, gentlemen, I will say by no means; this is one of the cases in which nature alone cures rapidly, and often the doctor receives credit really not due him. Of all our febrifuge remedies for children I truly believe no one does as much harm as aconite. Could we receive a correct reply from the causes of sudden death in children when the parents "didn't think it so bad," aconite would in my estimation hold a shocking and unconsidered position. That strong pulse of yesterday down to the rapid and threadlike softness of today that brings to you when you feel it a heart pang and a desire for aromatic ammonia in your vest pocket, cannot go on many hours after this without a fatal issue. This is a drug that I believe should never be given to young children without an assuredly reasonable time to be seen again. Then you ask in what may I find for children a good, safe general febrifuge? I answer, in that old time-tried remedy of our grandfathers, liquor acetate of ammonia, freshly made, alone or combined with acetate of potash. Nitrate of potash is another of much value, especially when there is pain in the muscles or joints. This good old remedy is either very much overlooked or not much understood; so safe that it may almost be called harmless, it has a strong power in the reduction of fever. I have found a saturated solution made with water at 60° Fahrenheit will in a short time be brought down to 44° Fahrenheit, and this shows to us how applicable it should be in localized fever, and in this I have yet to find its general equal or superior. In inflammations that arise from foreign bodies, particularly in the cutting or pricking by iron or steel a strong solution constantly applied is very effective. An example may be given in the common accident of running a rusty nail into the foot, in which I have never seen the nitrate excelled by anything. I believe it has decidedly antiseptic properties to living tissues, as it has long been known to have in arresting putrefaction, and in the preservation of dead ones.

But what must we do for the adult with his high temperature who has just been taken from health, and we find a dry skin, a dry tongue, an intense headache, and the usual symptoms of this class? He may tell you he has pain, sense of weight or pressure in the liver, kidneys or lungs; one thing you know he has not is an equalized circulation. How then will you manage this condition successfully?

One of the best methods I know is to give one-eighth to one-quarter grain of morphia with one-quarter grain of pilocarpine. There is almost no doubt of your patient beginning to perspire in from twenty minutes to half an hour; instead of dryness of the mouth he asks for the cuspidor, and at your next visit he will usually laud your skill or the rapid manner of his relief.

But this must be followed by phenacetin, which acts on the skin and capillary circulation, or else by liquor acetate of ammonia, either alone or combined as necessity demands. But while speaking of pilocarpine I must not overlook one very important action of it that may give annoyance if not actual alarm, namely, that of its action on the heart and respiration. I rarely give a female more than one-eighth grain at a dose, rather repeating in a short time if necessary so as to obviate the state it sometimes seems to induce. Shortly after taking it the patient will begin to take long inspirations, followed by marked intervals of rest, and assume an appearance of deep anxiety. At this time your own mind is usually taken up with the phrenic nerve and the action it takes in the animal economy. Happily these symptoms do not often take place, and there is usually but one way out, namely, stimulation. I find little of the above difficulty now when I give full doses of this drug to what my former annoyance has been, as I almost invariably give spirits, HOFFMAN's drops or aromatic ammonia with the initial dose.

Two years ago when remittent fevers were somewhat endemic in my locality, and I invariably began with this course of treatment, I fully believe they were much shortened and many times wholly aborted by it.

A very useful remedy in fever, far too little used and feared beyond reason, is gelsemium. It relaxes spasm in the capillaries, and allows nature to again equalize or restore a lost prestige in the circulation, and proves itself a valuable adjunct to other remedies.

Another excellent combination is liquor acetate of ammonia, acetate of potash and nitrate of potash. Its application and mode of action may be thus explained: in your stove you burn wood, but after a time if you do not remove the ashes it is with difficulty or even failure operated, and your indications are to remove the waste products. In a rise of temperature you have these exact conditions; the oxidation of tissue closes the various emunctories and your indications are to open them; in this case your liquor acetate of ammonia determines to the skin; your nitrate of potash cools the blood, and at the same time assists the acetate in its diuretic action to clear away the superabundant urates, urea and other waste products that remain and cause that abnormal condition we call fever.

TRANSACTIONS.

DETROIT MEDICAL AND LIBRARY ASSOCIATION.

STATED MEETING, DECEMBER 16, 1896.

THE PRESIDENT, ERNEST T. TAPPEY, M. D., IN THE CHAIR.
REPORTED BY WILLIS S. ANDERSON, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR EMERSON read a paper on "Digitalis, Cactus Grandiflorus, Strophanthus and Nitroglycerin." (See page 193.)

DOCTOR HITCHCOCK: I wish that someone more competent than I might open the discussion of this very practical paper. I believe that someone has said that a man is as old as his arteries are. The suitable administration of the drugs named in the paper may, I suppose, be materially influenced by the age of the patient. We are all of us; in our daily practice, familiar with digitalis in its varied uses. I have been struck once or twice with the very varying susceptibility of patients to its use. I recall a surgical case—a fracture of the pelvis—in which the patient suddenly developed a good deal of weakness of the heart and he really seemed quite feeble for a day or two. It was hardly so soon after the injury as to be apparently due to any shock consequent upon the injury. I gave him small doses (one minim) of the fluid extract of digitalis three times a day. When I saw him first his pulse was something like 88, and very weak and feeble. On my visit the succeeding day I found the pulse reduced considerably below 60—55 I believe—and the characteristic pulse of digitalis. I had given larger doses to other patients less sthenic than this man might have been in the normal state without any marked effect at all. Lately I have encountered in one or two cases the objection which we all experience with the use of the drug, and the action which must be observed in those cases that require a long use of the drug. I refer to the symptom which invariably develops after considerable use, namely, the feeling of nausea, and if not carefully watched the patient's stomach may become very seriously disordered. You may substitute the use of digitalin which has a less irritating effect on the stomach when the infusion or fluid extract are not well borne. I have had but little experience in the use of strophanthus. In the use of the cactus grandiflorus I can corroborate DOCTOR EMERSON's experience in the administration of this remedy in functional disturbances of the heart, especially in exophthalmic goitre, where the acceleration is often extremely marked. The doctor and I have followed several cases at Harper Hospital where the effect of the drug was very marked and gratifying in establishing a better action of the heart and a proportionate increase in the health of the patients. In the use of nitroglycerin there are many emergencies in which it may serve us a good turn, and the doctor has referred to the beneficial effects of the drug when it is given sufficiently early to ward off the attack in epileptic cases. In cases of seeming epileptic storm, where convulsions are for a time very frequent, the attacks have been much lessened in frequency by the use of this remedy.

DOCTOR LONGYEAR: I did not hear that part of the paper in regard to digitalis. The only point, however, I wish to note is with reference to the unreliability of the preparations of digitalis generally. I find in my practice that the fluid extract and the tincture are very apt to be unreliable; we fail to get the effects desired from them, and when I am very anxious to obtain immediate and positive effects I always prescribe the infusion made from SQUIBB's powder, and have never known it to fail in giving the action required. I remember very well a case of an old gentleman, very strong and apparently able to withstand a great deal, who had taken large and frequent doses of a cough mixture which contained tartar emetic and when I saw him his pulse was about forty per minute, and he was in great danger of syncope. In that case digitalis had a marked effect. I think that SQUIBB's powder is generally reliable, and it is advisable to have the infusion made from it. The objection to the infusion is that you must have it fresh. If kept for any length of time it is apt to spoil and is likely to cause symptoms of nausea, but I think that is the effect of digitalis in all forms, with the exception of digitalin which is most unreliable.

DOCTOR DOUGLAS: I wish simply to corroborate the statement of DOCTOR LONGYEAR in the administration of digitalis. I have followed much the same course as he has in the use of the tinctures and fluid extracts, but for the last ten years I most invariably have gotten good results from the use of the fluid extracts. I think you will always get the effects desired from the different preparations of digitalis if made by a reliable pharmaceutical firm. I was interested very much in the remarks of the essayist on the different preparations of the heart tonics, and must compliment him on his explanation of their effects.

DOCTOR HITCHCOCK: I think BARTHOLOW makes a distinction between the leaves of the wild plant and those of the cultivated plant. He states that the leaves of the wild plant are much more efficient than the leaves of the cultivated.

DOCTOR FLINTERMANN: As regards the administration of heart tonics the question is whether you want to stimulate or quieten the heart's action. Another question is in what way do we want to have an effect on the action of the heart—on the nervous system or by the blood supply? We all know that a person with poor blood certainly will have a very weak and agitated action of the heart. In this instance would it do to give one of the so-called heart tonics? Would it not be better to quieten the heart by improving the quality of the blood? In a case where we have to do with a purely nervous affection of the heart—where it is not dependent on any defect in the constitution of the blood—then certainly we ought to give such remedies as will act on the nerves which regulate the action of the heart. Now, as to the question which nerve is affected in a certain case—whether it is the pneumogastric or the sympathetic. On our decision in that case will rest the remedies to be employed. Where we have a very pronounced affection of the sympathetic nerve certainly we will give such remedies which by experience are known to have an effect on this particular nerve, but when we have a case where the heart's action is very much influenced by the pneumogastric our remedies must be different. It has been mentioned that the preparations of digitalis, for instance, in cases of brain disease and in exophthalmic goitre, very often fail to give relief to the patient where we have those tremendous palpitations, the pulse at times attaining a frequency of 200 beats per minute. It is a very remarkable fact also that in those cases of GRAVES' disease we have those symptoms looking to disease of the heart where we have no symptoms of dyspnea, pointing to the fact that there is no interference with the respiratory centres. In such cases we have certainly a disease which is caused by a nervous factor. Of course to give digitalis to patients affected in this way would be wrong. Now, as to the necessity of heart tonics in GRAVES' disease, I never would give digitalis, nor would I give digitalis in cases where we have to do with palpitations caused by neurasthenia. In such I always would prefer to give bromide of soda which I would state before this society is the specific remedy in all nervous irritations of the heart. Electricity is also an excellent remedy in such cases. I saw a case not long ago, which was treated by one of the members of the society, in which there were present all the symptoms of cardiac affection. Other symptoms which presented themselves were of much interest. The trouble began with a very severe attack of vomiting and diarrhea and the appearance of edema in other parts of the body. For instance, the abdominal wall became so enlarged that the patient was scarcely able to walk or reach anything out in front of her. The application of the electrical current in this case, in combination with bromide of soda, proved so beneficial that three weeks after the patient was able to sleep, the condition of the pulse became more regular and the patient improved in a wonderful degree. The method of applying the electricity consists in placing the negative pole to the nape of the neck and the positive pole directly between the mastoid process and the condyloid process of the inferior maxillary bone so that it strikes the sympathetic nerve, continuing the application for three minutes daily on each side.

DOCTOR DOUGLAS: What was the strength of the current?

DOCTOR FLINTERMANN: The diameter of the positive pole, seven centimetres; of the negative, twenty centimetres; and the number of milliamperes, two to three. Of course such cases demand a great deal of patience and confidence on the side of the patient. To accomplish results it takes several months, and there are very few patients who will faithfully follow out the treatment for such a length of time. Where we get good results from the tonic effect of digitalis on the heart is in cases caused by overburdening of the heart. Such cases usually occur in men who are obliged, from their occupation, to lift heavy loads. For instance we meet with them in butchers who have to lift from the hooks heavy pieces of meat. I saw such a case some years ago, the man coming into my office complaining of pressure in the region of the heart and decided shortness of breath. I recommended complete rest in bed combined with digitalis which produced very happy results. As to the different preparations of digitalis I always would rely upon the infusion prepared from the fresh roots. I have no experience whatever with strophanthus and the other tonics which the doctor has mentioned. In some cases the extract of belladonna is one of the remedies which has been recommended.

DOCTOR EMERSON: Digitalin as presented to us by the manufacturing chemist is not very reliable. The chemistry of the drug is quite at sea so far as I can ascertain. The name digitoxin has an unpleasant sound. Now, the French digitalin is insoluble in water, and yet true digitalin, as I understand it, is soluble in both alcohol and water, while digitoxin is insoluble in water and but slightly soluble in alcohol. I see no reason why the infusion of digitalis should be more active or more reliable than the alcoholic tincture provided you get your tincture of a reliable druggist.

STATED MEETING, JANUARY 6, 1896.

THE PRESIDENT, ERNEST T. TAPPEY, M. D., IN THE CHAIR.
REPORTED BY WILLIS S. ANDERSON, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR JENNING's read a paper on "Coal Tar Antipyretics." (See page 211.)

DOCTOR FLINTERMANN: I question whether we are always justified in using the coal tar antipyretics, and whether they do not, in some cases, interfere with the normal course of the disease. I have seen physicians use antipyretics one day, in quantities sufficient to cause cyanosis, and stimulants the next to counteract the effects. I think that we should have a definite idea in view when we use these drugs, and should always commence with a small dose. I know of several cases of poisoning, following the use of these preparations. One case came under my observation in which seven and one-half grains of phenacetin caused serious trouble; and a recent report from Germany calls attention to a fatal result from a single dose of this drug. I believe that these drugs have a depressing effect in such cases as typhoid fever and pneumonia, and that high temperatures are not necessarily serious. I recall two other cases of poisoning from phenacetin. First, a woman was seen two years ago with acute rheumatism. She was in a peculiar condition, with a weak pulse, shallow respiration, profuse perspiration, nausea and some vomiting, and tenderness over all of the abdomen. She was very weak and had great difficulty in sleeping at night. This patient had been taking twenty grains of phenacetin daily. The drug was stopped, and stimulants were administered with gradual but complete recovery. Another case was characterized by tenderness over the abdomen, shallow breathing, nausea and vomiting and insomnia. When the drug was stopped the patient recovered.

DOCTOR INGLIS: I endorse the position taken by DOCTOR JENNINGS in his paper, and believe that DOCTOR FLINTERMANN's criticism, as to whether it is best to reduce the temperature in some diseases, is not opposed to the paper. I believe that the reduction of temperature is advisable in the majority of cases, but that it is not necessary to reduce it to normal. I have used the coal tar antipyretics liberally, and have seen no serious results; therefore I believe that the danger from their use is very slight, if they be administered in moderate doses. Antifebrin and phenacetin can be given daily for months without harmful results. I have used phenacetin in epilepsy, in doses of three to five grains, three times a day, with good results, and believe that this drug can be used as long, and with less deleterious effects than can the bromides.

DOCTOR BIDDLE: I would like to ask DOCTOR JENNINGS if there is any danger of patients contracting the drug habit from the use of these preparations.

DOCTOR JENNINGS: In my experience patients only wanted the drugs for the relief of pain, and there is no trouble in discontinuing their use.

DOCTOR MINER: I think that phenacetin should not be used indiscriminately by the laity, and that in influenza it has been used in too large doses with an increase in a number of complications. I believe that the drug is unsafe in cardiac and renal diseases, and that the common custom of druggists, in dispensing large doses of phenacetin, is very injurious. Its use in pulmonary troubles leads many times to unpleasant results.

Doctor Robbins: I believe phenacetin is valuable in many cases of typhoid fever. I recall a case which was characterized by a rapid pulse and high fever with delirium, wherein phenacetin decreased the temperature, induced natural sleep, and strengthened the pulse.

Doctor Inglis: I do not believe that phenacetin is contraindicated in heart diseases.

Doctor Hitchcock: The indiscriminate use among the laity of headache wafers and other such nostrums should be discouraged. I have in mind a case in which cyanosis was caused by these medicaments. A report has been published that spiritus etheris nitrosi is incompatible with antipyrin, forming a poisonous compound.

Doctor Jennings: The unpleasant results following the use of these preparations seems to be due to their indiscriminate employment. I consider these effects attributable to poisonous dosage and not to the use of the drug in therapeutic doses. I think that if the cold bath be used as indiscriminately as the coal tar preparations just as serious results will follow.

DETROIT ACADEMY OF MEDICINE.

STATED MEETING, FEBRUARY 11, 1896.

The President, W. R. CHITTICK, M. D., in the Chair.
Reported by C. W. HITCHCOCK, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor W. P. Manton read a paper on "A Consideration of Uterine Curettage." (See page 197.)

Doctor A. D. Holmes: It requires a skilled person to do the operation, though we cannot send all of our cases to a specialist. The operation has to be done moderately common and I think it the duty of the general practitioner to make himself skilled in such operative procedure. Some cases of neurosis, simulating cases which need curettment, have come to my notice, recovering without operation.

Doctor A. H. Bigg: Doctor Manton's attention to detail always gives me great pleasure, as I regard this important in the preparation of a paper. I do not discuss this competently from the standpoint of the specialist but there is no point which I wish to dispute. I have found that, by placing the patient under an anesthetic, curetting, and applying some strong antiseptic, preferably carbolic acid, seventy-five to ninety-five per cent., I have had excellent results, though packing in addition may be very helpful. I would like to ask the doctor if, in puerperal cases, he has noticed any ill-effects from interference of packing with the lochial discharge? I have been pleased to note the excellent recovery of one case treated just as the doctor recommends.

Doctor H. C. Wyman: I think the operation a very important one. I recall a young man who graduated years ago, imbued with the benefits of the curette and he brought one with him to the locality where I was practicing and applied it in a case of abortion. The patient died and an autopsy showed a thoroughly septic condition. I believe here it was used too late. I have practiced a method of promoting the lochial discharge, after curetting, by inserting a gauze tampon containing about a teaspoonful of common salt. I believe that in many cases, after the puerperal state, abscesses form in behind the uterus and that we should make use of intestinal antisepsis as well as the commonly accepted operative antiseptic precautions.

Doctor W. P. Manton: I had no intention of being understood as Doctor Holmes appears to have understood me—as implying that all these cases should be sent to a specialist, or in thus seeming to laud myself and my ilk. I have never made any bid for cases being sent to me. I think young practitioners have very little idea of diseases of the uterus and its adnexa. I recall a Philadelphia graduate who said he had never been able to find the uterine ós in his cases of confinement. Such ignorance is not, of course, common. Doctor Holmes has referred to nervous temperature, and not infrequently from a slight irritation we may have a suddenly high temperature. Doctor Bigg asks as to interference with lochial discharge. Now, the lochia is simply a melting down of the decidua and the getting rid of necessary detritus. If, however, we remove the most of this decidua by curettage, we get rid of much that is ordinarily discharged in the lochia and have only a serous discharge which does take place. The packing protects against the invasion of germs, drainage and involution. It behooves us to be careful in all details, whether general practitioners or specialists.

STATED MEETING, FEBRUARY 25, 1896.

The President, W. R. CHITTICK, M. D., in the Chair.
Reported by C. W. HITCHCOCK, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor Hitchcock read a paper entitled "Some Common Points in Minor Surgery." (See page 202.)

Doctor Sprague: The paper contains many points of great value and I shall profit by it.

Doctor Robbins: The paper certainly expresses the points we should continually bear in mind. In some cases, however, I am unable to withdraw myself from the use of ointments, for example, chronic ulcers. This can hardly be done in such cases, unless you can have perfect control of your patient. Many both severe and mild cases of chronic ulcer do excellently and best on some ointment. I have been experimenting with loretin as a substitute for iodoform and have found it very efficient, equally so with iodoform. Other treatment failing in a case of chronic cystitis, the urine being loaded with albumen, I washed out the bladder and injected into it an ointment of loretin in sweet oil with happiest results.

Doctor Inglis: I heartily endorse the paper of Doctor Hitchcock, and especially the general conclusions in regard to the applicability of aseptic methods to minor surgery as well as to major. I agree with Doctor Robbins as to the great usefulness of unguents in the treatment of certain forms of chronic ulcer. The newer surgical methods have not changed and cannot change the facts of experience in regard to the utility of the oleaginous preparations in certain superficial lesions. In the treatment of burns I was many years ago led to substitute castor oil for linseed in the old carron oil. Linseed oil becomes gummy, forms an adherent scab, and in cases of extensive burns is very objectionable. Castor oil with limewater forms a fine white, and permanent emulsion which never becomes gummy and has proven in my hands vastly superior to the old oil. Even when applied to large surfaces it is never absorbed to the extent of producing any cathartic effect. I have found seven parts of the subcarbonate of bismuth to one of iodoform very efficient and not malodorous.

DOCTOR AARON: I think the time is coming when we shall abandon all powders. Collodion will better exclude air and in its use with iodoform I have had happy results. In many cases zinc oxide ointment fills a need, especially with the poor.

DOCTOR BIGG: The doctor has brought to our attention practical points. We all have to do with solutions of continuity. I am glad to corroborate what DOCTOR INGLIS says of castor oil. In the repair of wounds we have conditions analogous to those of embryonal tissue. Is heat, therefore, not an important element? A wound rendered aseptic and warmly and imperviously dressed ought to secure for us the best results. Heat and its use ought to be made prominent in the treatment of wounds. I refer to the preservation of body heat. I should like to speak also of the great satisfaction I have had in the use of the terebinthinates as a surgical dressing. The so-called Venice turpentine applied to a punctured wound makes a wonderfully soothing and satisfactory dressing, and if little bits of foreign substance have been carried into the wound at the second dressing they will all be found outside the wound and in the turpentine dressing.

DOCTOR EMERSON: I think I must plead guilty to being one of those esthetic fellows. If any bacillus would willfully remain in the presence of iodoform, he must have either no organ of intellect or no organ of smell. I have substituted aristol with happiest results. As to the carron oil, I have always used olive oil. When the skin is not removed, I prefer to use a dressing saturated with bicarbonate of soda. It is most soothing and I have used it with great comfort.

DOCTOR HOLMES: I agree with DOCTOR HITCHCOCK as to the use of ointments and see no reason why other means should not give better results, even in chronic ulcers, for example, antiseptic dressing, strapping, bandaging, et cetera.

DOCTOR MANTON: The matter of surgical cleanliness cannot be too much emphasized both to the general surgeon as well as to the general practitioner. Only recently I heard of a case where septic infection ensued on a carelessly done operation at a patient's residence. More rigid cleanliness must be insisted on. Constant meddling was only indirectly referred to in the paper. It is most pernicious and hindering. As a surgical dressing, salol has proven very useful and for burns I have found camphophenique both antiseptic and healing. The matter of healing is not always a question of aseptic surgery. When you meet thick layers of fat in operating, the insult to the fat from manipulation will cause a melting down (not a pus formation) and a breaking through the already closed skin. We frequently meet with this occurrence in fat abdomens. I heartily endorse the doctor's reference to the necessity of being broad and not confined to any one plan.

Doctor Winter: I enjoyed the paper, but am sorry to hear iodoform condemned. Its use in certain venereal troubles has undoubtedly given it an undeserved opprobrium. I use it constantly in confinements, inserting after labor a suppository of seven and one-half grains. The only way to cure chronic ulcers is to put the patients to bed, give large doses of opium, increase the cutaneous circulation, et cetera.

Doctor Wilson: Though I do not do much surgery, I have enjoyed the paper and discussion. Let me suggest that thymol is of use in deodorizing iodoform.

EDITORIAL ARTICLES.

PROFESSIONAL SECRECY.

The case of Kitson *versus* Playfair, in which Doctor Playfair has been mulcted of heavy damages, for what the jury esteemed a breach of professional confidence, is one which has created a renewed interest in this branch of professional ethics. The profession on this side of the Atlantic has experienced a sensation akin to surprise in learning that there is actually such a wide range of opinion as to the nature and limits of professional confidences.

If we were to summarize the trend of the various legal opinions which have recently come to light, this would indicate that there is a distinct tendency to decide that civic duty is above professional duty, and that knowledge which is clearly to the advantage of the community should not be withheld on the score of the professional relation. The supreme court of this country has not excused witnesses from revealing confidences which would incriminate those of whom they dealt on the ground that they were privileged. It is pretty generally admitted that if a medical man became cognizant that a crime was about to be perpetrated, it would unquestionably be his duty to prevent it. How far, however, shall he shield the criminal? A Detroit physician sometime ago refused information regarding an injury which would have led to the identification of a burglar, and was generally supported in the hope that he expressed that the good understanding which subsisted between the criminal classes and the medical profession would continue. Where do the rights of the individual cease and those of the community begin?

Nothing, perhaps, is so oppressive to the conscience as the possession of knowledge you cannot use when occasion seems to demand it. The embarrassment of the priest in the confessional who learns of something which must alter his ideas of a man fundamentally, is equalled by that of the physician who learns of some syphilitic about to marry into the family of one with whom perhaps he is on terms of friendship. Yet if once the seal of secrecy were removed from the confessional it would cease to be of any spiritual advantage, and could no longer be treated as a means of guiding evil-minded people into the right way. So in medicine, if confidences were not inviolate, physicians would soon cease to be consulted about matters which they now control and keep from impairing the health of the community.

It is, perhaps, by no means enviable to possess knowledge which you are bound not to use except under special conditions; yet unless these moral obligations be paramount, we should lose the great confidential professions, and mankind would no longer need the medical, legal, or spiritual adviser.

ANNOTATIONS.

THE NATURE OF COMMON SENSIBILITY.

Bearing upon the most important aspects of anesthesia, is the nature of common sensibility.. This, in a recent paper, **Doctor Benjamin Ward Richardson** conceives to be a peripheral phenomenon. Anesthesia he holds to be dependent upon the suppression of vibrations from the origins or expansions of the peripheral nerves,—nervous fibres spread out on membraneous structures—nerves commencing there and not ending there as physiology has hitherto taught. This leads the author of the paper in question to infer that anesthesia will ultimately be given in some form in which consciousness is not destroyed. Methylic ether is, in some respects, fitted to be the ideal anesthetic. To produce general insensibility without destroying consciousness is undoubtedly a very desirable point to reach in the philosophy of anesthesia.

CONCERNING SNAKES.

A lecture recently given on the treatment of the bite of venomous serpents confirms the popular estimate of the deadly nature of the weapon carried by these animals. The nonvenomous snakes are the only animals which do not succumb almost instantly to the bite, which suggests that these animals may have acquired comparative immunity. A cat which was suckled by a mother-cat which had been bitten, was found to be immunized. The best safeguard for the human being is said to be secured by swallowing the poison: Notwithstanding the extra equipment of the poison fang, in the race for life the nonpoisonous snakes seem to have excelled their more venomous allies. They have predominated apparently through the power of "blank cartridge," by a fine exhibition of the power of bluff in nature.

ANTITOXIN AND ITS RESULTS.

The introduction of the antitoxin method of treatment of diphtheria has had a most marked influence in mitigating the severity of the disease, according to the unanimous testimony of those reporting to the Metropolitan Asylum Board of London. The conclusions are based upon 3,529 cases of diphtheria in 1895 against 3,042 in 1894. The proportional case mortality was 7.1 per cent lower in 1895 than in 1894. The larger percentage of cases of paralysis and albuminuria is considered to be due to the greater proportion of recoveries in severe cases. The importance of early recourse to the remedy is exemplified in a mass of unimpeachable statistics.

THE REGISTRATION OF MIDWIVES.

If midwives are to be under any kind of surveillance, it will apparently be first necessary to make the practice of midwifery an art apart from the practice of medicine, by law to that effect. It might be suggested that the midwife's bill, now before the British parliament, or the regulation of midwifery existing in France, might furnish admirable examples to our board of health in dealing with irresponsible practitioners of the science of obstetrics.

CONTEMPORARY.

LEGISLATION FOR THE QUACK.

[THE AMERICAN MEDICO-SURGICAL BULLETIN.]

WHILE the educational question is on the tapis, and our state institutions, through the medium of their respective governments, are taking active steps to weed out by legislation that class of aspirants which, by reason of defective education in preliminary branches, is totally unfitted for pursuing the study of medicine, would it not be an excellent idea to insert a clause that will remedy the evil growing out of the practice of specialists, so-called, who go about the country advertising all manner of cures and using people's names indiscriminately to substantiate their advertisements, which are generally absolutely false? In most cases these "specialists," better known to people of intelligence as "unscrupulous quacks," have a diploma or license to practice, and so long as there is no direct charge of *malpractice* they are safe from process of law. The wily "specialist" of this class does not run an account; he must have his fee in advance, and his engagements (?) will not admit of a stay longer than a week, or at most two weeks. But it is an exceedingly profitable one, he lives in style, advertises the marvellous cures he performs, and carries away with him a good portion of hard-earned savings of a class of persons who can least afford to be humbugged in that way. The practice is a usurpation of the moral right of the local physician, and is a species of fraud imposed on an innocent and guileless public which ought to, but does not, know better. A removal of the cause would be a wise step, and will work good.

THE DESPISED OFFICE OF MOTHERHOOD.

[THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.]

"You dear, sweet baby! Mother feels perfectly dreffful 'cause you didn't win first prize." In these terms, a handsome young woman, fashionably and expensively clad, at a recent exhibition in the city of New York, addressed—*her cat!* A crowd of other anxious "mammas" and "muzzers" washed and combed and beribboned their "blessed darlings" before each day's opening of the cat show.

These are the women, daughters of wealthy parents, who announce before their marriage that they do not intend to have any children, who declare that a rosy infant nursing at its mother's breast is a vulgar, indecent spectacle, and who consign to a menial the task of dressing and feeding the little babe whose conception they strove by syringe, sponge or baudruche to prevent, and these failing sought to forestall by other means of which their knowledge is a fearfully suggestive fact. The naked South Sea Islander, who intuitively worships the unknown god of nature, or the pagan of the churches, who calls his god Buddha or Allah and his savior Siddartha or Mahomet, has far less need of Christian missionary endeavor than these bejeweled creatures of fashionable society, who are defying the precepts of the Jesus they profess to revere and the sweet example of the blessed Mary, who sanctified the office of motherhood in her own person. Physicians will do well to ponder on this aversion to child-bearing, which ought to be the ambition of every healthy, happily-married wife.

A new word from the prolific Greek—anerotic—has come in vogue in the course of the discussion as to the causes of the admitted unfruitfulness of the better classes of American women. That the majority of the women of this day are endowed with only a moderate degree of sexual propensity is undoubtedly the fact, and by many this may be regarded as a providential provision against immoral indulgence by the unmarried and a restraint upon conjugal excesses, but apart from the extinction of a normal physiological function, which cannot be commended, the unreproductive effects upon the community are deplorable. The deficiency of children in modern well-to-do families and the consequent diminution of paternal, filial and fraternal bonds are aiding to destroy that most charming institution of our grandsires, the ideal American home. The new woman craze is the natural outcome of the weakening of home duties, ties and demands. Having no longer the absorbing occupations of the nursery, playroom and domestic schooling, to engage time and thought, the epicene woman mounts her bicycle, joins her club and fondles cats and dogs instead of children.

A careful inquiry into the ultimate causes, which have made maternity unattractive will probably find that reprehensible social customs are first responsible for the physical deterioration and the latter the proximate cause of unfruitful union. The demands of modern fashionable life and its pseudofashionable imitators are so largely in the direction of public entertainments where display is the feature, that domestic reunions and harmless diversions have fallen into disuse and the daughters of plain folk, like those of the wealthy, are only interested in meretricious theatrical doings, and the insanitary indulgences of the ballroom. Intemperate dancing by adolescent girls is more to blame for genital disturbances than any one other cause. The homely dances which began and ended early have been supplanted by those which do not commence until after the hour when the young girl should be asleep in bed, and continue until daylight, the jaded creature having to overcome her exhaustion by stimulation with beef tea, strong coffee, champagne, or the latest maintainer of energy, kola. It requires no profound knowledge of female anatomy and physiology to realize that an immature menstruating girl cannot sit up until midnight and then undergo the physical exertion of a ballroom belle for hours on successive nights without establishing a train of symptoms indicating serious impairment of her normal sexual development, especially when that girl superadds a vicious style of dress, which aims to diminish the diameter of her waist beyond the possibility of the contained organs remaining in situ. Though mothers and daughters do not heed, is the family adviser any the less derelict who does not show them how pressure upon the mammæ results in their atrophy and unfits them for their prime purpose and how displacement of the pelvic viscera induces painful strains, which are so common that the twentieth century woman without a backache ought to be the envied of her sex. The normal function of the sexual period has come to be so abhorrent, that the interference of the menstrual recurrence with prospective gaieties only incenses the pleasure-seeker who attempts to retard or prevent it at any hazard. Whether lack of the development of the erotic sites of the female sexual apparatus is a progressive degenerative incident due to these and other concurrent causes and is a primary reason for the avoidance of conjugal duties, the fact is that such a condition is becoming a frequent topic in medical discussions. Inquirers as to the causes of prostitutions agree that sensual gratification is an inconsiderable factor in the recruitment of the class of public women. The love of dress, thirst for excitement, acquiescence for the sake of the professing lover, evil example, curiosity, poverty, unwillingness to work, all these have their victims, and ruin hundreds where the mere gratification of passion allures individuals. Sociologists may look for the explanation of the frequency of divorces in the dissatisfaction of husbands who find themselves bound to women to whom sexual relations are repugnant, whose horror of maternity is overpowering, and whose unwelcome offspring are denied their natural sustenance through maternal incapacity or selfish disinclination. The surviving daughter is sure to be trained in her mother's violation of all the laws of female hygiene and to become in turn even more indisposed and less fitted for maternity.

The remedy for the unnatural aversion to motherhood, whatever its cause, while within the province of the medical adviser, is not to be found in aphrodisiac medication. "Give him bromid; don't dose me with damiana," significantly protested a wife in whom an injudicious physician was trying to arouse the sleeping venery. The removal of physical impediments, such as preputial adhesions, must be supplemented by instruction as to conjugal duties and responsibilities and by reform in social customs, which latter, however, it is perhaps idle to expect in this generation.

MEDICAL NEWS.

THE MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

THE forty-seventh annual gathering of this medical body occurred in Atlanta on May 5, 6, 7, and 8, 1896, under the presidency of Doctor R. Beverly Cole, of San Francisco, whose address dealt with questions of supreme importance. The orator deprecated the multiplicity of so-called medical schools, believing that the practice which had become vogue among them of bidding for patronage, relaxing the standard of preliminary examinations, restricting the curriculum, and conducting superficial final examinations, was responsible for the tendency of many present-day medical men to depreciate the dignity of their profession and lower it to a commercial level. Governmental interference was declared to be the remedy for this deplorable condition. The cut rate fee for insurance examinations was considered an insult to any educated physician, and the compensation for scientific service placed at five dollars. Reciprocity in medical practice was advocated. Foreign physicians should be required to undergo a rigid examination before a national board of examiners. Clerical and medical bolstering of quack nostrums received consideration, and ministers were advised to confine their endorsements to panaceas for the soul, while physicians who place the body in jeopardy by certifying to the efficacy of preparations about which they know nothing, were characterized as fit subjects for reprimand or ostracism. Mutilation of the human body was accorded merited attention, and the opinion expressed that unjustifiable operations were too frequently performed. A committee was appointed to consider the suggestions advanced and report at a subsequent meeting. The next meeting will be held at Philadelphia, on the first Tuesday in June, 1897, and the occasion will mark the semicentennial of the association's existence, an event which it is intended to duly celebrate in the Quaker City of its inception. The officers for the ensuing year are: President, Doctor Nicholas Senn, of Chicago; first vicepresident, Doctor George M. Sternberg, of the United States army; second vicepresident, Doctor Edmund Souchon, of Louisiana; third vicepresident, Doctor K. D. Thomas, of Pennsylvania; fourth vicepresident, Doctor W. T. Westmoreland, of Georgia; treasurer, Doctor H. P. Newman, of Chicago; assistant secretary, Doctor T. F. Sneidman, Pennsylvania; librarian, Doctor George W. Webster, of Illinois; chairman of committee on arrangements, Doctor H. A. Hare, of Pennsylvania; trustees, Doctor E. E. Montgomery, of Philadelphia; Doctor J. M. Matthews, of Louisville; Doctor C. A. L. Reed, of Cincinnati, and Doctor G. C. Savage, of Nashville; judicial council, Doctors George W. Stoner, United States marine hospital service; C. W. Foster, of Maine; James McF. Gaston, of Georgia; I. M. Quimby, of New Jersey; C. Scott, of South Carolina. Address on medicine, Doctor Austin Flint, of New York; address on surgery, Doctor W. W. Keene, of Pennsylvania; address on state medicine, Doctor Jerome Cochrane, of Alabama.

THE TRISTATE MEDICAL GATHERING.

The Tristate Medical Society of Iowa, Illinois, and Missouri convened in fourth annual meeting at Chicago, on April 7, under the presidency of Doctor R. H. Babcock, of that city, and continued its sessions for three days. Antitoxin or serum therapy was considered by the president in the opening address, during the delivery of which the statement was made that the success attending recent experiments with that remedy renders the physician culpable who refuses to employ it. Tuberculocidin and antiphthisin were also highly commended and statistics quoted of one hundred and eighty-two cases of consumption in all stages treated by these agents with recovery in thirty-two per cent., arrest or marked improvement in thirty per cent. and slight improvement in sixteen per cent. Neurasthenia was discussed by Doctor J. F. Percy, of Galesburg, Illinois, in the succeeding paper; and special education recommended for this nervous condition. A course at a kindergarten normal school affords excellent results. Teach the patient the real facts underlying the morbid tendencies. The cases should be classified, and their education conducted by competent persons, the system being suggestive rather than direct. Doctor A. H. Cordier, of Kansas City, Missouri, dealt with the indications for operation in cancer of the uterus complicated by pregnancy. It is the opinion of this author that the microscope does not afford an infallible means of diagnosis; that the disease, in most instances, is primarily a local process; that early hysterectomy will effect a cure in a large percentage of cases; and that malignant pregnant uteri should be removed without delay. Doctor Paul Paquin, of Saint Louis, Missouri, presented some observations on serotherapy. The beneficial effects of this method of medication depend upon increased phagocytosis. The white cells are probably augmented by a process of cellular digestion, or rather a diastatic neutralization. The author said that the serum treatment had been criticised on the ground that dangerous animal diseases—glanders and tuberculosis—might be transmitted to man, but declared that precautionary measures would obviate this danger. Doctor J. M. Matthews, of Louisville, Kentucky, thought there were some needed reforms in medicine that should be inaugurated. Young men should not adopt a specialty until they have practiced general medicine. Appointments to positions in medical institutions—asylums, et cetera—should be made with greater care, professional qualification rather than political influence being the desideratum. Elevate the plane of expert testimony, give the witness adequate compensation, and confine the expert specialty to persons whose reputation in the profession—not among the laity—bespeaks knowledge of what they affirm. The old rule which applied to consultations has been relegated. Specialism is the factor that instigated the removal. Under the present regime the patient either belongs to the physician or to the specialist, and the inclination of the disease should determine the claim to patient and fee. The following officers were elected: President, Doctor A. H. Cordier, Kansas City; first vicepresident, Doctor Hugh T. Patrick, Chicago; second vicepresident, Doctor H. C. Eschbach, Albia, Iowa; secretary, Doctor George W. Cale, Saint Louis; treasurer, Doctor C. S. Chase, Waterloo, Iowa. The next meeting will be held in Saint Louis.

THE NATIONAL CONFERENCE OF CORRECTIONS AND CHARITIES.

THIS important meeting will occur at Grand Rapids, Michigan, on June 4–10 inclusive. Among those who are expected to deliver addresses may be mentioned Doctor Philip W. Ayers, and Miss Julia C. Lathrop, of Chicago; C. S. Loch, of London, England; and H. W. Lewis, of Washington, District of Columbia. Doctor Samuel Bell, of the Newberry Hospital for the Insane, is chairman of the committee of the section on insanity, and announces having secured the following persons to contribute papers treating upon this subject: Doctor Jules Morel, Ghent, Belgium—"Observations as an Alienist for Five Years to the Belgium Prisons." Doctor Percy Wade, Baltimore, Maryland—"Convalescent Homes for the After-treatment of the Insane." Doctor Hal C. Wyman, Detroit, Michigan—"Some Methods of Caring for the Chronic Insane Poor." Honorable W. P. Letchworth, Buffalo, New York—"Provision for Epileptics." Doctor O. R. Long, Ionia, Michigan—"Care of the Criminal Insane." Doctor W. A. Gordan, Wisconsin—"The Separation of the Chronic from the Acute Insane in our Hospitals." Doctor H. A. Tobey, Toledo, Ohio—"State Care versus County Care of the Insane." Honorable J. E. Heg, Wisconsin—"County Care of the Insane." Doctor George O. Hanlon, Willard State Hospital, New York—"Care of the Chronic Insane in New York."

THE SECOND PANAMERICAN MEDICAL CONGRESS.

THE next meeting of the medical profession of the Western Hemisphere will take place in the City of Mexico, on November 16, 17, 18, and 19, 1896. The date occurs in midwinter, the season when the northern visitor finds the climate most attractive, and the occasion should stimulate the profession of the United States to reciprocate the generous patronage accorded the Washington gathering by our Mexican confreres. The committee on organization has elected Doctor Manuel Carmona y Valle, president; Doctor Rafael Lavista, vicepresident; and Doctor Eduardo Liceaga, secretary. In the preliminary circular issued by Doctor Charles A. L. Reed, exofficio secretary, this important announcement is made: "It should be remembered that the United States is the largest, and in many regards the most important, of the American countries, and that as a consequence more is expected of it than of any other occidental nation. In no particular is this more true than in the maintenance of position in the realm of scientific medicine on the Western Hemisphere. It is, therefore, simply essential that in this congress—the most important of all medical congresses, in its exclusive, yet broad American significance—the best thought and the best work of the American profession shall be conspicuous in the proceedings." Those who contemplate presenting papers should send their titles at the earliest practicable date to Doctor Eduardo Liceaga, Calle de San Andres num 4, Ciudad de Mexico, D. F. Republica Mexicana, and in like manner all who expect to attend should send their name and address to Doctor Charles A. L. Reed, Saint Leger Place, Cincinnati, Ohio, that the committee may be afforded an idea of the probable magnitude of the gathering.

THE IMBIBITION OF INTOXICANTS.

Doctor Salvador Garciadiego, of Guadalajara, Mexico, well describes the causes that lead men to drink in the April number of *The American Public Health Association*, the following being a literal reproduction, even to punctuation marks: "Besides, the whirlwind that drags us along in this century of positivism, to the material well-being and luxury and ostentation obliges us to live among a moral, unbearable tension, and that exhausting our mental, moral, and physical strengths by anxiety and sorrow, bringing with them arduous and daring enterprises and their consequent deceptions, we are compelled to look for a lenitive that softens our disquietness, and we recur to alcohol, tobacco, opium, to morphium, to the use of ethers, chloroform, et cetera, according to nationality, habits, pecuniary proportions, social position, and lastly, until the fashion takes a part in this lethal election of means, being for our frail organisms too stimulated, besides true and sure poisons." That 's it exactly! We are especially pleased to see the factor of "pecuniary proportions" given proper recognition in the "lethal election" of beverages, and trust that some general means of raising it to a higher standard may be found for the American people.

DOCTOR MARIANO SEMMOLA'S DEMISE.

The eminent Italian physician, Professor Mariano Semmola, of Naples, died on the 5th of April. He was born in Naples on January 31, 1831, and received medical training in the city of his nativity and in Paris. At the age of twenty years he presented a paper on Bright's disease before the Naples Academy of Medicine in which he demonstrated the effect of nitrogenous and nonnitrogenous food upon the excretion of albumin in sufferers from this kidney affection. He afterward became an author of continental repute, issuing treatises and monographs upon albuminuria, diabetes, diseases of the liver, and general therapeutics, many of which were speedily translated into German, and one—an essay on "Old and New Medicine"—achieved the renown of reproduction in nearly every language of Europe, including the Greek and Portugese. About three weeks before death occurred he concluded a treatise on diseases of the liver for the "Twentieth Century Practice." In 1865 he was elected professor of pharmacology and therapeutics in the University of Naples. In 1886 he became a life senator of the kingdom of Italy. He achieved the rank of officer in an Italian order of merit, and was a member of the Legion of Honor of France. He was associated with Charcot in treating the Emperor Dom Pedro, and was decorated by this patient with the grand cordon of the Imperial Order of the Rose, a distinction that was supplemented by a congratulatory letter and gold medal from the municipality of Rio Janeiro. The ex-khedive of Egypt called the doctor to Constantinople two years later, and during his stay in that city the sultan conferred upon him the grand cordon of the Imperial Order of the Osmanie. He was also honored by the czar of Russia who made him an officer in the Order of Saint Stanislas, presenting the insignia with an autograph letter accompaniment. Doctor Semmola was the founder of the *Archivio Medico Italiano*, and enjoyed personal acquaintance with leaders of medical thought throughout the world.

MINOR INTELLIGENCE.

MEASLES are epidemic in New York City.

ELECTROCUTION has been adopted by Ohio.

TYPHUS FEVER is prevailing in Marash, Syria.

ONE block in New York City contains a population of 1,650.

ON March 31 the Rush Monument Fund amounted to $3,729.39.

ENGLEWOOD, New Jersey, has a medical mayor.—Doctor Daniel A. Currie.

THE Michigan State Medical Society will meet at Mount Clemens on June 4 and 5.

"A FASHIONABLE Physician," is the title of a comedy soon to be produced in New York City.

THE testimonial fund for Doctor W. G. Grace, the English cricketer, has reached $50,000.

A CASE of appendicitis has been attributed to a piece of chewing gum which was found in the appendix.

EXPERIMENTS have demonstrated that typhoid bacilli will exist in oysters for a month from date of infection.

Two leading physicians in Cleveland, Tennessee, recently died within a week from the effects of blood poisoning.

THE Ohio State Pediatric Society will convene in Columbus, on May 27, under the presidency of Doctor S. W. Kelley, of Cleveland.

THE establishment of a diphtheria and scarlet fever hospital for pay-patients is contemplated in a bill pending in the New York legislature.

THE plague has become epidemic at Hong Kong, and ninety-five per cent. of the sufferers succumb within four days after contracting the disease.

LEGISLATION, at Greenwood, Indiana, prohibits the smoking of cigarettes on the streets. Minors are debarred from purchasing cigarettes or tobacco in Ohio.

PERFUME is now being injected hypodermically by Parisian votaries of fashion. Extract of violet is the favorite effluvial preparation employed.

KENTUCKY is blessed with four thousand registered practicing physicians. Four hundred of this number are enrolled as members of the State Medical Society.

THE Ohio State Medical Society will hold its fifty-first annual meeting at Columbus, on May 27–29. Doctor Dan Millikin, of Hamilton, will officiate as president.

THE tenth annual meeting of the American Orthopedic Association will be held at Buffalo on May 19, 20, and 21, under the presidency of Doctor Royal Whitman, of New York.

A BILL which contemplates the brewing of pure lager beer is before the New York legislature. Its requires that brewers keep all beer in storage at least six months before offering it for sale.

SEVERAL hundred persons are afflicted with leprosy in the Russian Baltic provinces. Measures have been instituted by the Livonian Diet to isolate the diseased at the expense of the state.

CASUALTIES from football reported in England during the last half of March were fractures of the larger bones in three players, and an injury to the neck which induced paralysis in a fourth.

IN England and Wales from 50,000 to 60,000 people die annually of pulmonary tuberculosis. There were 1,702,002 deaths from this disease between 1848 and 1858, the majority being young adults.

THE bill contemplating the abolition of coroner has been killed in the New York Assembly, but another measure which retains this official minus the established jury accompaniment, is on the tapis.

DURING the last two years over 860 quacks have been banished from Kentucky. This laudable work was accomplished by the combined effort of the medical profession and the state legislature.

THE Huxley Memorial Fund has reached £2,300. With this sum a statute of the great scientist will be erected in the Natural History Museum, and a medal award established at the Royal College of Science.

A BILL has passed the lower house of congress which levies a tax upon filled cheese, a product of skimmed milk and lard oil. It is placed upon the market as a substitute for cream cheese, and is said to be cheap and wholesome.

ODESSA physicians recently rendered a medical play entitled "Hypnotic Suggestion; or, a Woman's Vengeance," at one of the city theatres. The orchestra was also composed of doctors, and the audience consisted of hospital convalescents who were granted a ticket of leave for the histrionic occasion.

DOCTOR OTTOLENGHI has expressed the opinion that a possible explanation of the alleged power of certain trance subjects to see masses through opaque media is afforded by the recent discovery of the kathode rays. He thinks the abnormal conditions of the nervous mechanism obtaining in these individuals renders the retina sensitive to rays that would not impress vision under normal conditions.

THE English language has finally been accorded recognition by the committee of arrangements of the International Medical Congress to be held in Moscow, and will therefore be included in the official languages employed in the deliberations.

THE New York State Board of Health has decided to petition the legislature for an appropriation of $300,000 which will be expended in compensating owners for tuberculous cattle that the diseased animals may be killed with a view to eradicating the disease.

SIR JAMES KITSON, one of the persons to whom Doctor Playfair betrayed his professional secret, and a very rich man, has signified his intention to defray the damages and costs which may be imposed by the court of appeal, to which Doctor Playfair has carried his case.

ANTIMIKROBIA is the latest remedy for tuberculosis. It is a preparation composed of cod-liver oil and ozone, is administered hypodermically, and has been highly lauded by Doctor Erich Langheld before the Congress of Internal Medicine which recently convened at Wiesbaden.

MADEMOISELLE AUDRIFFRED has presented the Paris Academy of Medicine a sum equivalent to $160,000, the income from which is to be awarded yearly to the person who discovers a specific remedy for consumption. This prize is available to foreigners as well as Frenchmen.

THE Michigan Surgical and Pathological Society recently elected the following officers for the ensuing year: President, Doctor M. V. Meddaugh; vice-president, Doctor John F. McPherson; secretary, Doctor Arthur D. Holmes; treasurer, Doctor Frank P. Leckner; curators, Doctors Joseph Shellfish and R. S. Linn.

DOCTOR CHARLES A. L. REED, of Cincinnati, has been selected by the European committee on organization of the International Periodical Congress of Gynecology and Obstetrics, as honorary president of the meeting of that body to be held in the city of Geneva, Switzerland, the first week in September of this year.

ENGLISH physicians are loud in their condemnation of the growing evil known as club practice. The organizations which exist to supply medical service to members are becoming very numerous, and the annual stipend which the sharp competition allows the contract physician has been reduced to sixty-two cents for each patient.

SANTANELLI, the hypnotist, who gave exhibitions in Michigan some months ago, has been arrested in Fort Wayne on the charge of cruelty to a minor. He placed a youth named Mahoney under hypnotic influence and kept him in a comatose condition for hours. This action so incensed the physicians that they caused the arrest.

ENGLISH football players are afflicted with a new disease which has been christened scrumpox. This skin affection is characterized by a pustular eruption indirectly attributable to dirty jerseys, and manifests preference for the forwards whose position involves the thickest of the scrimmage. The staphylococcus pyogenes aureus has its habitat in the pustule, and the contagiousness of the eruption has been satisfactorily demonstrated.

THE Chicago Medical Society elected the following officers on April 6: President, Doctor H. N. Moyer; vicepresidents, Doctors Ferdinand Henrotin and Arthur B. Bevan; secretary, Doctor J. C. Hoag; treasurer, Doctor Arthur R. Reynolds; necrologist, Doctor S. C. Plummer.

DOCTOR J. WEST ROOSEVELT, of New York City, died suddenly of pneumonia on April 10. His demise occurred eighteen hours atter the onset of the disease. He was born on July 2, 1858, and received his medical degree in 1880 from the College of Physicians and Surgeons at New York.

THE Medical Society of the District of Columbia recently decided to publish its transactions in *The National Medical Review*, edited by Doctor Charles H. Stowell, formerly professor of histology in the medical department of the University of Michigan. This acquisition will still greater enhance the value of an already very readable journal.

OUR national legislators have been dabbling with the metric system of weights and measures. The lower house recently decreed the adoption of this method by the various departments of the United States government, but later reconsidered the measure and referred it back to a committee. The final vogue of the system, however, is thought to be certain.

PITTSBURGH, Pennsylvania, is to have a magnificent hospital for children within the next year. It will cost $500,000 and its erection will be the charitable work of Henry C. Frick, chairman of the Carnegie Steel Company. The site is a forty-acre plot owned by the benefactor on Squirrel Hill, and the hospital will be conducted under the auspices of the Episcopal church.

A MOVEMENT has been inaugurated in Cincinnati to establish a "Doctors' Headquarters." A number of eminent physicians are the promoters, and the object of the innovation contemplates greater facility for obtaining immediate attention to urgent calls. This is afforded by connection with each office through the medium of a general telephone on every floor of the building.

A POLISH engineer has invented a portable crematory for military purposes. It is patterned somewhat after the army baking oven although much higher and heavier. It is to be drawn by eight horses, and is designed to burn the bodies of soldiers killed in battle that epidemics incident to their burial may be prevented. This method of disposing of the dead has been adopted by the German army.

THE Buffalo Academy of Medicine is divided into four sections, namely, medicine and therapeutics, general surgery, obstetrics and gynecology, pathology—including anatomy, physiology and chemistry. Each section convenes monthly, and the meetings are arranged to occur weekly, the entire Academy being entertained by one of the divisions every year. Visiting physicians are invited to attend.

KING MENELEK'S army will receive succor from a red cross expedition which has embarked from Russia. Sixteen surgeons, seventy attendants, nurses, interpreters, et cetera, comprise the party. The equippage includes medicines, surgical instruments, modern comforts, and sufficient provender to sustain the members for one hundred days. The expedition proceeded to Abyssinia by way of Odessa and Massowah.

An edict has been issued by the French government which contemplates the examination for tuberculosis of imported cattle. The tuberculin test will be applied on the frontier and all affected bovines refused entrance to the interior. This mandate is inapplicable to cattle which may be shipped into France for purposes of early slaughter, but proof must be submitted to the authorities within two weeks that such animals have been slain.

The twenty-seventh annual commencement exercises and alumni banquet of the Detroit College of Medicine occurred on Thursday evening, April 30, the former at the Auditorium and the latter at the Hotel Cadillac. Seventy-nine candidates received the degree of Doctor of Medicine, and the degree of Pharmaceutical Chemist was conferred upon twelve, including one woman. Honorable S. M. Cutcheon and Doctor S. G. Miner delivered the addresses of the occasion.

The Medical Association of Georgia convened in forty-seventh annual meeting at Augusta on April 15, 16, and 17, under the presidency of Doctor Frank M. Ridley, who delivered an address of exceeding interest. The papers were numerous and elicited much discussion. The annual election resulted in the following choice of officers: President, Doctor G. H. Noble, Atlanta; first vicepresident, Doctor J. B. Morgan, Augusta; second vicepresident, Doctor R. B. Barron, Macon; secretary, Doctor R. H. Taylor, Griffin; treasurer, Doctor E. C. Goodrich, Augusta. The next meeting will be held at Macon.

The Western Society of Ophthalmologists, Otologists, and Laryngologists, which was organized at Kansas City on April 9, with a membership of seventy-five, elected the following officers to control its destinies: President, Doctor Adolph Alt, Saint Louis, Missouri; first vicepresident, Doctor B. E. Fryer, Kansas City; second vicepresident, Doctor W. C. Pipino, Des Moines; third vicepresident, Doctor J. M. Martindale, Minneapolis; secretary, Doctor Hall Foster, Kansas City; treasurer, Doctor W. L. Dayton, Lincoln, Nebraska. The next meeting will occur at St. Louis, Missouri, on the second Tuesday in April, 1897.

RECENT PUBLICATIONS.

REVIEWS.

OBSTETRIC NURSING.*

The merits of this excellent little book have been duly appreciated in repeated editions. The principles which conduce to the successful care of the lying-in woman are clearly and forcibly enunciated. It cannot be too strongly urged that nurses and midwives carefully assimilate the teachings laid down in this little manual. Many lives which now are extinguished through inadequate knowledge of the responsibilities of the obstetric nurse, would be avoided if this were done. Doctor Fullerton's book cannot but meet with the success in the future its merits have secured for it in the past.

* A Hand-Book for Nurses, Students and Mothers. By Anna M. Fullerton, M. D., Physician in charge of the Woman's Hospital, Philadelphia. Fourth edition. Price, $1.00. P. Blakiston, Son & Company, Philadelphia.

THE YEAR-BOOK OF TREATMENT FOR 1896.*

No introduction of the "Year-Book of Treatment" is necessary. The year's advances in medicine and surgery are admirably summarized. Each section has been prepared by an editor specially equipped for his work. The most recent advances in serum therapeutics will be found admirably condensed, and the book is *par excellence* the reference hand-book for the busy practitioner.

*A Critical Review for Practitioners of Medicine and Surgery. 12mo., 484 pages. Cloth, $1.50. Philadelphia: Lea Brothers & Company, Publishers, 1896.

THE FILTRATION OF PUBLIC WATER SUPPLIES.*

THE attention that municipalities on all sides are directing to public water supplies makes Doctor Hazen's work one of peculiar value at the present time. It is a comprehensive review of the whole problem, and admirably summarizes the dangers that proceed from a practical neglect of the most important hygienic problems. All interested in public medicine will find the book a fund of information.

*By Allan Hazen. First edition. John Wiley & Sons, New York.

MEDICAL PROGRESS.

OPHTHALMOLOGY.

THE HOME STUDY OF OPHTHALMOLOGY FOR THE GENERAL PRACTITIONER: THE EXTERIOR OF THE EYE.

PROBABLY most physicians who have been a few years in practice feel, with regard to the practical and most directly useful part of their stock of professional knowledge, that they have acquired a very large part of it since the college authorities pronounced them learned in the science and art of medicine. And this must continue to be the case so long as practical branches are attempted to be taught in the colleges by didactic lectures, or by so called "clinical" lectures to large classes; which to nine-tenths of the class are only didactic lectures with the patient, who serves as a sort of text, nothing more than one additional figure in the arena.

With regard to ophthalmology, nearly every undergraduate medical school now has its "clinical" or "honorary" professor of this branch of medical science. And such a professorship is a desirable thing, both to the incumbent, as an advertisement of his eminence in his specialty, and to the school as swelling the imposing list of its instructors. But when the lectures of these professors are attended by an insignificant minority of the class, who know that they will never be questioned upon the subject in the examination for the degree, it may well be doubted whether the recent graduate is as well posted in this direction now as he was in the days of the professor of surgery, who boasted that he could teach the whole subject in two short lectures, but who was just as likely to question the candidate for a degree upon these lectures as upon any others of his course.

Certain it is that at the present day the mass of graduates in medicine are ignorant and usually avowedly so, of the whole subject; and in just so far as they are ignorant, of this department of medicine, they are unfitted to become truly "general" medical practitioners.

To remedy this educational defect many have recourse to postgraduate instruction. The course on diseases of the eye is always one of the most popular in our postgraduate schools. The writer certainly has nothing to say against this way of doing it. But a large number of practitioners do not or cannot avail themselves of this method; and must depend on their own private exertions aided only by books. And it is this kind of study of ophthalmology that it is my purpose now to discuss. From personal experience I can assert that by it alone one can get a fair working knowledge of the subject.

The study should be commenced by a careful review of what is likely to be rather slighted in the general medical course, the anatomy and physiology of the eye. These are well set forth in our common treatises on anatomy and physiology, especially in the physiologies of Foster, and of Landois. The reading of the text and careful study of the plates are to be supplemented by the more or less thorough dissection of the eyes of the lower animals; and the careful study of the external appearances of one's own eyes in a looking-glass. This last will acquaint the student with the normal appearances of the eyeball and lids. He is not likely to spend too much time and care on it.

First, one should inspect carefully the reflections from the cornea; for instance, the reflection of a white card held some ten or twelve inches from the eye, and moved so that the reflection will come from various parts of the cornea successively. He should notice how from the normal cornea the reflection is always smooth at its border; and of the same shape except where near the margin the cornea is flattened, causing the extension or enlargement of the little image, when it is perceived in this region. The repetition of this study in a case of conical or irregular cornea or of corneal ulcer, or of a foreign body on the cornea, will enable the student to recognize the trouble when otherwise it might escape notice altogether.

Of the vessels which run over the eyeball it is not enough to know simply that some are deep and others more superficial; one who expects to recognize even the simplest inflammations of the eye should become perfectly familiar with all the normal characters of the vessels:—How in the eyes of the young they are small and few:—How they become more noticeable with age. How they are most numerous over the portion of the eyeball habitually exposed by the opening of the lids. Over this area too, the conjunctiva is often somewhat thickened. To be noted also is the thickening of the conjunctiva, or rather of the subconjunctival tissue in all directions as it passes back from the cornea toward the point of its reflection on the inner surface of the lids. When in disease the redness and swelling are situated in these tissues they will of course be most marked where these tissues are thickest. As in health the color of the lid shades off imperceptibly into the almost pure white of the sclera, so in disease does the hyperemia of conjunctivitis become least pronounced as the corneal margin is approached. It is well to note in this connection that it is not the conjunctiva itself that one sees or that gives the color; but the tissue beneath it. The normal conjunctiva is quite transparent.

When looking at the retrotarsal folds, which are best exposed by drawing down the lower lid and rolling the eyeball upward, this transparency allows one to look right into the deeper subconjunctival tissue and to inspect even the larger vessels as they branch, and branch again, in their course toward the more superficial capillaries. Through the conjunctiva covering the upper tarsal cartilages we can see the much finer vessels here distributed; and the yellowish irregular bands perpendicular to the lid margin, produced by the Meibomian glands, separated by the redder tissue of the cartilage. Familiarity with the normal transparency of these tissues is of the highest importance when it comes to recognizing the changes of inflammation. That transparency is impaired and the deeper structures of the lid hidden, by abnormal proliferation of the epithelial layer. This causes the appearance of a thin grayish or whitish film, like a very thin layer of milk spread over the surface. This is most marked in the rare inflammation known as vernal conjunctivitis or spring catarrh; but it is often quite noticeable in cases of chronic conjunctivitis occurring for the most part among persons past middle life, in which the conjunctiva often seems paler than normal and in which the smarting and discomfort seems out of all proportion to the severity of the inflammation.

Transparency is also impaired by interstitial exudate containing leucocytes. If the exudate be lymph or serum comparatively free from leucocytes it may appear as a translucent mass in which the vessels are so pressed upon that they are scarcely larger than normal; and the membrane may be pale rather than red.

When the hyperemia is relatively great the individual vessels will be much less noticeable than in the normal eye because they are lost in the general redness. But there is another form of hyperemia in which the background for the vessels remains pale; and their enlargement makes them apparently more numerous. This form is seen in phlyctenular and other forms of conjunctivitis that are especially liable to affect injuriously the cornea.

But there is still more to be learned from this study of one's own eye: the normal distribution of the lashes, the position, size and relations of the lachrymal puncta and the feel of the bony prominences and depressions of the margins of the orbit. The student will never find a better subject upon whom to practice the common manipulations of the lid—pulling the lower lid down and out and everting the upper. Upon no one else will he so rapidly acquire delicacy of touch and the confidence in his skill that go far toward making the eversion of the lids not only painless, but actually free from discomfort. One of the things about everting the upper lid that should be learned early is to always put the point of the pencil or probe, over which the lid has to be turned, entirely back of the edge of the cartilage, and when one comes to practice on others he will notice that the width of the cartilage varies in different persons. It is often especially wide in the negro race.

Having thoroughly acquainted himself with the appearance of his own eyes (no insignificant start in the domain of ophthalmology, and one that can be made no matter how scarce clinical material may be in his office) the physician may enlarge his field of study by including the eyes of some friend or member of his family or some suitable patient. Here one should first note the things he has studied in his own eyes and make careful comparisons, broadening thus his mental standards of comparison.—Doctor Edward Jackson, in *The Philadelphia Polyclinic.*

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ORIGINAL CONTRIBUTIONS.

MEMOIRS.

THE CURETTE IN THE TREATMENT OF ACUTE PELVIC INFLAMMATIONS.*

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[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

Recent years have witnessed thousands of abdominal sections for pelvic disease in women. Those who are constantly engaged in gynecological surgery recognize that more such sections are performed for the removal of the uterine appendages, structurally and beyond recall damaged by inflammatory action, than for any other one condition. Having this fact so persistently and forcefully presented to us, we realize, not only the importance, but also the imperative necessity, of attacking these diseases, and the conditions which produce them, in their very incipiency.

Pelvic pathology, as relates to inflammatory affections of the appendages, after many years upholding the almost mythical condition of pelvic cellulitis, has reverted to a position it occupied nearly forty years ago when, in 1857, Bernutz taught that the inflammatory masses found about the uterus were, almost without exception, the result of pelvic peritonitis, preceded and caused by salpingitis.

The uterus is now recognized as the starting point of these far-reaching and disastrous pelvic inflammations. Be the route of infection through either the Fallopian tubes or the pelvic lymphatics, the point of departure is invariably constant. Herein lies the key to the prevention of inflammation of the uterine adnexa and the pelvic peritoneum. When every case of acute endometritis and metritis is met by prompt and radical treatment, the number of invalid women and of abdominal sections will be largely diminished. These septic inflammations, so often occurring subsequent to an abortion, are too frequently passed over as of but slight importance. As a matter of fact, they may become most destructive in their ultimate results.

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*Read before the Monroe County (Michigan) Medical Society.

In the treatment of acute, as of chronic, septic inflammation of the uterus, the older methods of intrauterine applications, glycerine tampons and vaginal douches have passed their day of routine employment. Surgery, more successful than medicine, has supplanted the latter in the treatment of these diseases. In the sharp curette we have an instrument of pronounced value for the abortion of uterine inflammation and the prevention of tubal, ovarian and peritoneal inflammation.

Curettage, like every surgical procedure or therapeutic agent, may be improperly employed or unskillfully performed. Failure, or even disaster, under such circumstances, must neither condemn, nor detract from, an operative measure properly performed, with proper instruments, in proper cases. The time was, and recently, too, when the dull wire curette was looked upon as the correct instrument to employ, and, largely so, on the ground that no harm could result from its use, even by unskilled hands. Experience soon demonstrated, however, that not only could much harm be done, but also that it was constantly being done. Many men sent up a cry of warning so vigorous in its tones, that it amounted to a most severe condemnation, not of the improperly selected instrument alone, but of the operation as well.

It is probable that, if all the facts were accessible, it would be shown that the dull curette has wrought far more harm than good. I cannot refer to the routine employment of this instrument in curettage, except in the most unfavorable terms. Given, for example, a case of septic endometritis; the indication is unmistakably plain to immediately and thoroughly empty the uterus of its infectious contents. A dull curette simply denudes the uterine mucosa of its protecting epithelium, while it utterly fails to remove the infective cocci. By what it accomplishes, and by what it fails to accomplish, it favors the absorption of the very material which it should remove. On the other hand, the sharp curette removes the mucosa and with it the infective cocci. I would limit the use of the dull curette to the detachment of particles of placenta remaining after abortion and before evidences of septic infection were manifest. If infection had begun, as evidenced by a chill, elevated temperature, rapid pulse and tender abdomen, I would at once curette the uterus, following the technique given below. I would expect the operation to be followed, within a short time, by a steady decline in temperature and pulse-rate and a disappearance of abdominal pain and tenderness.

It is not only when inflammation is limited to the uterus that curettage is indicated, but also in the beginning of acute tubal and peritoneal inflammation. Under the latter circumstances, the apparent indication is to direct our energies to the appendages alone, the greater and more dangerous inflammation overshadowing the lesser one within the uterus. Such a step, however, would be but treating the results, while the still persisting cause was ignored. The first and most important actual indication, in these cases, is to remove the infective focus, and that focus will be found within the uterus. The improvement which will, at times, occur in a case of acute inflammation of the appendages, within a few hours following curettage and drainage of the uterus, is almost marvelous.

The following is the technique of curettage which I employ, with but slight variation to meet the exigencies of special cases and occasions. Complaint may be made that the preparatory technique is too extensive and that the method, as a whole, elevates what is a comparatively simple operation, to the dignity of a capital one. The methods of antisepsis employed in curettage are practically the same as precede vaginal hysterectomy. It is in these precautionary measures that rests the safety of the operation. While, in curettage, an opening is not made directly into the peritoneal cavity as in vaginal hysterectomy, still there is left a wound of from three to six or more square inches in extent, which not only communicates, through the tubes, with that cavity, but also directly with the vagina. Bacterial life in the vagina must be destroyed, or at least, inhibited in its action, in order that there may not be a reinfection of the uterus after curettage, with a progressive infection of the adnexa and pelvic peritoneum. The hazardous practice of curetting the uterus after a simple douching of the vagina with carbolized water, or even a bichloride solution, as the only antiseptic precaution, cannot be too strongly condemned. The employment of bichloride solution within the vagina must invariably be preceded by a thorough mechanical cleansing by means of hot water, soap and brisk friction. It is only after the secretions of the vagina have been entirely removed that bichloride solution is effective. Even then, the mechanical cleansing is of more efficacy than the bichloride douche.

I insist upon my patients giving up three weeks to the operation, most of the time to be spent quietly in bed. If the condition of the patient will safely admit of the delay, the preparations for the operation are made on the day preceding its performance. This permits thorough evacuation of the bowels by salines and enemas, a full hot soap bath, and gives two opportunities for cleansing the vagina—one in the evening preceding, and another on the morning of, operation. In all cases the vulva is shaved, for hairs are sterilized with difficulty and, if allowed to reman, interfere materially with the performance of the opertion and the subsequent application of aseptic dressings.

The vulva and walls of the vagina are thoroughly scrubbed with hot water and green soap, by means of a gauze or absorbent cotton mop, especial attention being given to the folds and rugosities of the vaginal mucous membrane. The soap having been rinsed off with sterilized water, a hot, two per cent. creolin douche is given, the vagina being again scrubbed with a mop while the creolin solution is flowing. A hot bichloride douche, 1 to 1,000 follows, after which, the vagina is again rinsed with sterilized water, then wiped dry and lightly packed with iodoform gauze. On the morning of operation these preparatory procedures are repeated. This extensive preparatory technique cannot, of course, be employed in cases of acute infection demanding immediate operation. One thorough cleansing of the vulva and vagina must be made before the operation is begun.

I usually operate through a Talley bivalve speculum, which gives abundant room and does away with the necessity for assistants. A perineal retractor, held in place by a small pail filled with water, will answer the same purpose in the majority of cases. The speculum having been introduced, the anterior lip of the cervix is seized with bullet forceps and, if there be no contraindication thereto, the uterus is drawn down. This straightens out the curve of the uterus and facilitates the performance of the operation. The curve and depth of the uterine canal are determined by the sound, after which the branched dilator is inserted. Dilation should be made slowly and intermittently, that there be no danger of rupturing the uterus. The nut which maintains the separation of the blades of the dilator should never be screwed down against the handle. The instrument should, at all times, be under the absolute control of the hand, in order that the dilating force may be instantly suspended on the slighest evidence of tearing of the uterine tissue. It is desirable to secure liberal dilation in all cases, to temporarily paralyze, through the sympathetics, the contracting power of the uterus, otherwise the patient will suffer great pain for hours after the operation, the gauze packing within the uterus will be expelled, and free drainage interfered with. One inch is generally sufficient except in puerperal cases, when one and one-half inches are advisable. Dilation having been secured, the entire endometrium is thoroughly removed by the sharp curette, especial attention being given to the fundus and regions about the tubal orifices. The largest uterine speculum which will pass is now inserted on its obturator, the latter removed and the uterine cavity irrigated by hot sterilized water. Objection has been made to intrauterine irrigation, that fluid may thus be forced into the tubes and peritoneal cavity. If irrigation be made through the uterine speculum, there will be no accumulation of water in the uterine cavity and, consequently, no pressure tending to force the fluid into the tubes. The uterine cavity must be completely emptied of all debris before the gauze packing is inserted. Free irrigation will accomplish this better than any other method. By means of a narrow bladed dressing forceps, a uterine sound or a tampon screw, a long narrow strip of iodoform gauze is firmly packed into the uterus, about an inch of the gauze being allowed to protrude into the vagina. The intrauterine packing is introduced through the uterine speculum. I find this method of packing gives better results than mere insertion of a short strip of gauze for drainage. The vagina, after irrigation, is wiped dry and loosely filled with iodoform gauze. This completes the operation.

IS EXOPHORIA CURABLE WITHOUT OPERATION?*

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By exophoria is meant that anomaly of adjustment of the ocular muscles in which there is a tendency for the optic axes to diverge. This anomaly may be manifest either for distance or the near point.

This definition of the defect naturally presents to our minds the anatomically defective parts which must of necessity be involved in the production of the difficulty, that is, we must have in this anomaly one of two conditions, namely, either much weakened internal recti or over developed external recti muscles. To be sure there is another class of cases in which the optic axes are placed one higher than the other (hyperphoria) in which case the lateral recti muscles are working at a disadvantage.

The defect may be either in the muscles themselves or in their nervous supply. So the problem presented for the cure of the condition is the restoration of the proper balance between the internal and external recti muscles.

In the nomenclature of the affection we speak of one, two, three, or more degrees of exophoria, meaning by that the number of degrees of prisms it takes to compensate for the deviation of the optic axes, thus we say one degree of exophoria in those cases in which the deviation outward of the optic axes is corrected by a one-degree prism, et cetera, up to seven degrees or eight degrees when the *tendency* becomes a *reality* and we have a condition in which the weakened internal recti muscles are no longer able to compensate for the defect, a divergent strabismus being the result.

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*Read before the DETROIT ACADEMY OF MEDICINE.

Of all the muscular anomalies this one of exophoria or weakness of the internal recti was the earliest recognized, its close association with the act of accommodation making it one of great importance and hence forcing itself upon the attention of the earlier observers.

The relationship between the act of accommodation or the changing of the focus of the eye from its state of rest while looking at distant objects, to one of muscular activity when looking at a nearer object, is associated intimately with the act of convergence of the optic axes which takes place simultaneously and proportionately with the accommodation.

This relationship is interesting because it was its existence which first directed the attention of the earlier investigators to this weakness of the internal recti, and also because modern investigators have utilized this relationship for the curing of the anomaly as will be described later on.

You will observe also that when the anomaly exophoria is associated, as it so often is, with the error of refraction known as hypermetropia or hypermetropic astigmatism, the correction of these refractive errors by means of properly adjusted glasses takes away from the weakened internal recti muscles one of their chief sources of stimulation, namely, the accommodative effort necessary to secure clear vision by the correction of the hypermetropia by strain of the accommodation, hence it is that we so often find that convex glasses prescribed for hypermetropia or hypermetropic astigmatism are not worn with comfort because the relief gotten from the correction of the errors of refraction is more than neutralized by the extra strain thrown upon the internal recti already too weak and now deprived of one of their chief sources of stimulation.

In these cases, then, it must be laid down as a rule of practice that exophoria in many cases must be gotten rid of in some way either before or along with the prescribing of convex glasses for the correction of hypermetropia or hypermetropic astigmata.

In looking over my record book in the last five hundred cases of refraction coming under my observation I find three hundred and fifty-three cases of hypermetropia or hypermetropic astigmatism. Exophoria is found in one hundred and thirteen of these three hundred and fifty-three cases, or about thirty per cent. of the hyperopic eyes show exophoria.

When one remembers the close relationship between the acts of accommodation and convergence this high percentage of exophoria takes on a special significance.

It may, I think, be laid down as an axiom that in the correction of any defect or pathologic condition to which any organ or tissue of the body may be subjected, that procedure which more nearly imitates the working of nature is the most desirable, provided always, of course, that it be prompt and efficient.

In the correction of the defect known as exophoria many procedures has been employed. They may be enumerated as follows:

(1) Correction of errors of refraction.

(2) General systemic treatment of a tonic, hygienic, alterative, or specific nature.

(3) Surgical procedures which consist either in tenotomies (partial or complete) of the external recti or advancement of the internal recti.

(4) What might be called the gymnastic correction of this defect.

Let us glance for a moment at these four groups separately and we will, I think, be able to draw practical and interesting lessons from each of them.

Correction of Errors of Refraction.—Most of the cases coming to us presenting the defect exophoria have a chain of symptoms called asthenopia, which consist of headache, eyeache, smarting and burning of the eyes and eyelids, lachrymation, dread of light, chronic catarrhal conjunctivitis, blepharitis marginalis, in short an inability to use the eyes with comfort. Upon a careful and systematic investigation of the ocular defects we will almost always find this exophoria associated with an error of refraction, hypermetropia, myopia, or some form of astigmatism.

Experience teaches us that the correction of the errors of refraction is followed in many cases by immense benefit to the patient, and that frequently under this correction the muscular anomaly will disappear completely, this being most likely to be the case if the refractive error has been myopia, myopic or mixed astigmatism.

The correction on the other hand of hypermetropia or hypermetropic astigmatism, will frequently cause great trouble until such time also as the exophoria be corrected, when both it and the symptoms will disappear.

So I would say, to begin with, correct all errors of refraction accurately.

(2) *General Systemic Treatment of a Tonic, Hygienic, Alterative or Specific Nature.*—Inasmuch as the defect under consideration is one of an asthenic group characterized by a depression in the function of the internal recti muscles or their nervous mechanism, anything which will improve the general tone of the muscular, or nervous system will be of decided benefit, and more especially might be mentioned the intelligent inquiry into and correction of the patient's hygienic surroundings and mode of life, his dietary, outdoor exercise, attention to his emunctories—especially the skin, and if need be the exhibition of judiciously selected medicinal agents.

These indeed are important points in the cure and its permanency.

(3) *Surgical Procedures.*—These will consist either in advancement or tenotomies. It is here that the great dividing line seems to be drawn between the practice as followed by different members of the profession.

Some men are thoroughly imbued with the idea that in surgical procedure is to be found the cure for all muscular ills of every kind and degree and that that is all that is necessary. So tenotomy after tenotomy is performed Some graded and some ungraded. Advancement after advancement is made until one sees six, eight or ten operations done upon the same eye and more to follow. These men make up a pretty solid proportion of the body professional and they will hear to nothing but operative procedure.

The philosophy of operative procedure in these cases is about as follows: If a tenotomy of the external recti is made the idea is to weaken the strong antagonist in order to give the weak internal recti a better chance. If an advancement of the internal recti is made the idea is that the weakened muscles are advanced still further upon the eyeball in order to give their weakened fibres or insufficient nerve supply a better purchase upon the eyeball.

Much can be said for and against wholesale tenotomy, but after all is said and done, and all the back counties of assertion, denial, and above all of experience, have been heard from and critically weighed, the cool judgment of all must be that while undoubtedly operative work on the eye muscles has been hobbyized by some, and many a tenotomy has been done which might have been avoided, still in many an intractable and stubborn case operative procedure is the friend who has helped us out of a real dilemma.

(4) *What may be called the Gymnastic Correction of the Defect.*—In contradistinction to the operative enthusiasts are the gymnastic devotees, and they are quite as enthusiastic in the advocating of their methods and the condemnation of surgical procedure as are the other gentlemen in defending their procedure against all comers.

There are, I am well aware, many in the profession who do not think this method of correcting these defects worthy of any consideration whatever, and yet I venture to say without fear of successful contradiction that many of these cases can be permanently cured by means of properly directed exercise by means of prisms.

There are two methods of carrying out muscular exercise by means of prisms: one works on the supposition that the defect is in the muscular fibres themselves and has been advocated by SAVAGE, of Nashville, Tennessee, though used many years ago. It is now known as rhythmic exercise of the internal recti. The other form of practice is advocated chiefly by GOULD, of Philadelphia, and has for its underlying principle the developing of the nerve supply of the internal recti, bringing into action the association between accommodation and convergence and using the prisms as handicappers to the recti.

This latter form of exercise seems to be the one that has given the best practical results, and by it I have very frequently been able to overcome both high and low degrees of exophoria, not only so but make them pass over into the opposite state of esophoria to any desired extent.

I could enumerate case after case for you if it were necessary but perhaps a brief outline of one case will suffice.

I. S., aged nineteen years; clerk; consulted me July 21, 1895, complaining of headache, eyeache, smarting and burning, darting sharp pain in and about the eyes. Careful examination under atropine mydriasis showed:

O. D. $+ 25D^s = + .25D^c$ axis 75°
O. S. $+ 50D^s = + .25D^c$ axis 100°

Exophoria both before, during, and after the mydriasis 2°, adduction 14°, abduction 8°.

GOULD's practice, together with glasses and tonic, were ordered. The patient got his glasses and wore them several weeks without benefit. He then began to use the prism practice, beginning with 8° prisms.

August 1: Esophoria ½°, Gain 18° prisms.
August 2: Esophoria 2°, Gain 24° " Eyes and head comfortable.
November 1: Esophoria 2°, Gain 30° "

In conclusion, "Is exophoria curable without operation?" Decidedly and unquestionably the answer must be yes in the great majority of cases, but there are and probably always will be a small proportion of stubborn cases of very high degree which will demand operative management.

Some four or five years ago I read a paper before the Michigan State Medical Society upon "An Analysis of Two Hundred Cases of Headache," in which I made the statement that not more than five per cent. of cases as they come to us in our daily practice will need tenotomy, and I think that figure not far off the mark.

51 FORT STREET, WEST.

THE EFFECT OF HEART STRAIN UPON THE TRICUSPID VALVE.*

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I REALIZE fully the responsibility I assume in bringing up for your consideration the effects of heart strain upon the tricuspid valve. But it seems to me the standard textbooks give such slight attention to this condition that we ought to take advantage of whatever information is offered upon the subject. After a fair search of the literature on heart disease, I have been unable to find but little excepting the almost stereotyped description of tricuspid diseases contained in the works of even the best authors.

For my part I cannot understand why tricuspid lesions have been so generally slighted, for surely the functions of the right side of the heart are equally as important as those of the left. To be sure, diseases of the mitral valve preponderate, and this is the valve where mitral disease can, and generally does, originate. Other valvular lesions, especially those of the tricuspid, are most always secondary, and when the mitral valve becomes chronically incompetent the tricuspid necessarily also becomes disabled or diseased; but when we take into consideration the vast amount of work done by the right heart it cannot be wondered at that these valves of themselves can become weakened under continuous strain and finally and sometimes suddenly give way. The left ventricle, to be sure, has to distribute blood to all parts of the body and through arteries whose muscular coatings make them firm and elastic and additionally strong over the veins. The return circulation with which the right heart has most to do is through vessels that are "passive rather than active organs of circulation." In order to make up the deficiency these vessels do contain valves that help to sustain the columns of blood within them.

Whenever the venous circulation is interfered with by disease greater or less in extent it must necessarily follow that the right heart is at least equally as much concerned as the left heart.

In speaking of heart strain I do not confine myself to the conditions following excessive athletic exercise, but mean to consider rather the strain following pathological conditions.

In severe bodily strain when prolonged or occasional, such as in forced marches in armies, and as has often occurred with hunters who have been forced, owing to the exigencies of their surroundings, and especially in winter time, to regain cover, sudden incompetency of the tricuspid valve has been reported by experienced surgeons. I remember one case, that of a lighthouse keeper, that was reported by a physician of Fort Wayne, Detroit, in which the man was compelled to travel a long way in winter time with a small load of provisions which he carried on his back. When the man came within sight of his station he fell in a faint and had to be helped inside the house. This attack was followed by great difficulty in breathing, impaired digestion and other symptoms due to engorgement of the portal circulation. These symptoms continued without being relieved to any appreciable extent, and the man became a chronic invalid.

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* Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

The doctor related his experiences in similar cases while serving in the late rebellion. The deep inspirations and the extensive muscular contraction which follows, while the breath is held forcibly, empties the veins into the heart. The circulation in the lungs being thus impeded, naturally the right heart sustains the greatest strain from over-distention. Sometimes under these conditions the tricuspid valve, especially if weakened by excessive stimulation, as in drinkers, suddenly gives way, indeed more often than any of us appreciate. Little heed is usually paid to the first symptoms and the condition often remains unrecognized until mitral incompetency results, just as tricuspid disease follows that of the left auriculo-ventricular opening.

In pulmonary congestion due to croupous pneumonia and other acute diseases of the lungs, it is the heart that we have to look out for, first, last, and always. If we can keep the heart from faltering the prognosis of the case is made all the more certain.

This is because of the effect of the pulmonary congestion backing up into the right ventricle and thence into the right auricle and then back into the liver, which, by the way, is always congested, but more especially when the circulation in the lungs is clogged up as in croupous pneumonia. The thinner walls of the right ventricle, which allows of this cavity being oftener dilated than that of the left ventricle, may account for the lesser occurrence of auriculo-ventricular valvular disease on this side of the heart.

It is possible that compensation in this manner may have a great deal to do in making the circulation through the right heart more elastic and thus preventive of permanent injury to the parts. Great stress is laid upon the value of venous pulsation in the neck in tricuspid insufficiency, but this symptom was absent in three cases which I have seen during the past two years. Therefore, I believe, also as some authors say, that this symptom is of little diagnostic value.

In one case which I have under observation at present the hepatic systolic pulse, said to be present in tricuspid regurgitation, is absent, and never was present to my knowledge. This case, which is at present at Harper Hospital, is a young German twenty-four or twenty-five years of age, a machinist by trade, and who, during the past three years, has generally spent his nights drinking and carousing, while during the day he has ordinarily attended to his work, thus getting little or no sleep. Thus from excessive stimulation and by reason of his being on his feet most of the night and during the day, the right heart from the continual strain and congestion of the abdominal organs suddenly gave way, and a distinct insufficiency and stenosis followed. The venous congestion also affected the organic structure of the kidney, thus uremic poisoning followed and he was picked up and brought to the hospital several times suffering from convulsions. The heart murmur is distinctly heard over the middle of the sternum, and is not well heard at the apex, and is not reflected over the posterior part of the left ventricle. Gastric disturbance is now very marked in this case and the patient is unable to retain any food. There is very marked epigastric tenderness. The patient is also very anemic.

Another case was that shown a few months ago before the Academy of Medicine by DOCTOR A. H. BIGG. In this case the patient was brought in without notice and so the physicians present were unprepared to make any study of it beforehand, and the result was a wide difference of opinion regarding the diagnosis. The patient was a male between thirty and thirty-five years of age, a man of good habits, a hard worker, whose trade obliged him to make severe muscular exertion with a cooper's tool held at arm's length. The consequent symptoms of dyspnea, palpitation, gastric disturbance, congestion of the liver, diarrhea, et cetera, followed, in my opinion, the tricuspid lesion which I diagnosed to be present.

In this brief but imperfect paper, I have only endeavored to furnish a beginning for a discussion on the effects of heart strain upon the tricuspid valve.

A FEW POINTS IN THE RECOGNITION AND TREATMENT OF DISEASES OF THE SKIN.*

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THE limitations of this short paper will prevent my entering fully on the topics which I may present, for each one is capable of elaboration to almost any extent.

The first point that occurs to me is, that want of success in handling many skin cases will often come from lack of care and too little attention and study being given to the individual case. While skin diseases are somewhat difficult, both in their recognition and treatment, I do not think they need, by any means, present the difficulties which are imagined by many. If physicians would only devote the time and study to individual cases, which are given to the same cases by the specialist, I think that better results would be obtained. A specialist is seldom willing to give a diagnosis or express a prognosis in regard to a case, much less enter upon a line of treatment, until he has thoroughly studied the case from every aspect.

In approaching a case of skin disease intelligently it is always necessary to give some time to several matters: (*a*) History must be well gone into. How and when the eruption developed, what were the earliest lesions, and to discover if possible some of the primary lesions still present. (*b*) Careful inquiry should be made in regard to former eruptions, either in the patient or family. (*c*) Investigate and record family tendencies as to eruptions—rheumatism, gout, bronchitis, asthma, scrofula, et cetera. (*d*) It is also necessary to know his personal history in regard to former diseases, former condition of life, his tendencies, et cetera. (*e*) It is also very necessary to thoroughly know the present condition of the patient in all respects, state of secretions and excretions, his mode of life, diet, habits, et cetera.

In no branch of medicine, perhaps, is the advantage of taking and recording notes more clearly apparent than in connection with diseases of the skin. At each visit, notes of the condition and the state of the eruption and results of treatment should be entered. In this way a case can be properly studied and followed from beginning to end.

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*Read before the WAYNE COUNTY MEDICAL SOCIETY.

The connection of certain skin affections with the general condition of the patient will often be thus developed unexpectedly. Germans, and chief amongst them HEBRA, look upon the causation of nearly all skin diseases as local; but Americans devote the largest share of their attention toward internal and constitutional causes in the treatment of these affections. Time and space do not permit me to elaborate these and many other points. Most authors agree that debility plays a very large share in the development of many cutaneous lesions. I am impressed with their connection with and dependence upon disorders and derangements of the gastro-intestinal tract, and those of the liver and kidneys. Repeated tests of urine in skin diseases should be made, for urinary derangements are often connected with those of the skin—for example, changes in daily quantity of the urine and its acidity and specific gravity, and to the presence of uric acid, urates, phosphates, et cetera, which indicate assimilative and dissimilative disorders.

It is not necessary for the general practitioner to cover the entire field of dermatology in order to succeed fairly well in ordinary routine practice in this line. Three-fourths of the cases presented would appear under a dozen or so names, while the whole list of skin diseases numbers over one hundred. Most of the cases ordinarily seen are included, perhaps, under seven affections. So that if the physician will become familiar with a few of the most common affections of the skin, and become skilled in their management, he will make a long step in advance.

ANALYSIS.

(1) Eczema,	33%.
(2) Acne,	10 to 25%.
(3) Syphilis,	10%.
(4) Animal parasitic,	6.7%.
(5) Vegetable parasitic,	4.5%.
(6) Psoriasis,	4%.
(7) Urticaria,	3%.
7 Forms,	70–80%.

ECZEMA.—To understand fully the management of eczema, therefore, represents a very large share of the skill required by the general practitioner in the management of skin diseases. The principle of treatment applicable to eczema will also be found of very great service in connection with many other inflammatory conditions. The first point is that there is far more danger of erring in the way of doing too much for eczema than in doing too little. The cases of eczema requiring a stimulating treatment are far less frequent than those requiring protective and soothing measures. While chronic patches of old eczema will sometimes bear quite powerful irritants, even in those cases the surface requires afterward to be protected and soothed.

The itching of eczema will often be terrific, and often stronger and stronger applications will be made in the hope of allaying the intense pruritus, but care must be exercised in this, for the measures which check the itching will often prove very irritating to the skin tissue. Acute infantile eczema may be taken as a type of this. The little ones will suffer immensely and tear and rub the surface in their vain efforts to find relief, and oftentimes applications will be made which only increase the difficulty and the disease will thus try greatly the patience of physician and friends. True relief is to be obtained by internal measures—dietary, hygienic and medicinal. In very chronic conditions in adults, it is desirable to begin with very mild stimulants and antipruritics, and to watch the effects, increasing the strength gradually according to their effect on the skin.

In regard to the general matter of applications to the skin in eczema, there is no one remedy which is found to be universally applicable. Almost the only exception to this is the oxide of zinc ointment, now so universally used, which if rightly made rarely does harm, even if it does not very often do much good. A great many new remedies and measures are proposed from time to time in current literature, but I believe it is far wiser to have a few good remedies and to understand their use well than to be trying time and again such as are recommended by others.

To be successful in the treatment of eczema, one must study the patient carefully and adapt the treatment to the condition found. Arsenic has somewhat of a control over the nutrition of the skin, and is certainly valuable in certain cases of skin affections, but it often fails to benefit an eczematous case. It frequently enters into tonic prescriptions, but alone it seems incapable of controlling the disease except in a very small number of cases of infantile eczema. A large share of cases of eczema will be found to have an acid state of the system and alkalies will generally be found to be of the greatest service. Acetate of potash is perhaps the most valuable, but there is no one single remedy or panacea for the disease. Purgatives are of great service at times, combined with strong tonics. The great importance of diet in eczema, and indeed in many skin diseases, must never be forgotten. Diet should be understood in its broadest meaning, with the following definition, namely, such a regulation of the quantity and quality of the food and drink taken, its mode of preparation and the time and method of consumption as shall conduce to the restoration and maintenance of health. Milk is often of the greatest service in certain cases with a lowered vitality but on the other hand, milk given in connection with food will often induce a bilious state which may produce disease. It should be given pure and alone, on an empty stomach, one hour before eating and slightly warm.

Eczema should be studied and treated from a broad medical standpoint, without too much attention to the particular local disturbances found upon the skin.

ACNE.—The next most frequent disorder of the skin is undoubtedly acne. The disease is often considered a mere blemish, and as a necessary accompaniment of certain times of life, and hence goes untreated. It is a common idea that it is not capable of cure, but must be borne, with the idea that it will disappear with time. It is the cause of a great amount of distress and annoyance, and any one who has much to do with its removal will realize the relief and pleasure given thereby to those afflicted with it. We may consider acne briefly under three general topics: (*a*) Acne Simplex—occurring in young people, varies in extent from a few pimples to an eruption causing great disfigurement.

It commonly results from debility and often there is found a certain weakness, a relaxed condition of the tissues, cold hands and feet, pale and slightly coated tongue, disturbance in sleep, et cetera. In most cases powerful tonic treatment will reduce the lesions and a careful dietary with other treatment will effect its removal. (*b*) Acne Indurata—very often the result of pure debility, and often there are also evidences of digestive or assimilative disorder, and great care will be required to secure the proper assimilation of tonic remedies. (*c*) Acne Rosacea—this form, more commonly seen in middle and older life, depends largely upon digestive disturbances. Constipation, urinary disorders and other conditions require attention. In many cases of acne indurata and rosacea, the eruption will be found to depend largely upon the abuse of stimulants. These should not be allowed. Nearly all the forms of acne are curable, provided the causes can be reached and removed, and as these causes commonly relate to functional disorders of the system, sufficient medical intelligence and care should eventuate in their removal and the cure of the eruption. I believe the local treatment of acne is the least important part of the subject. Too strong local applications are to be avoided, as more favorable results are obtained by mild astringents, mainly those containing sulphur, than from any active or very severe measures.

SYPHILIS.—Time and space do not permit me to enter into this great subject, but it might not be amiss to quote DUHRING. . He says: "I would have syphilis included under the contagious diseases, which are amenable to the health officers, and I would have it made criminal to willingly communicate the disease or not to exercise proper precautions against the infection of others. When the profession, and consequently the laity, are sufficiently awake to the injury constantly inflicted by syphilis on those who are innocent of all sexual transgressions, they will take measures to restrict the spread of the disease."

ANIMAL PARASITIC DISEASES.—These come forth in relative frequency in statistics, and refer chiefly to scabies and phthiriasis, or the lesions caused by the different forms of body lice. Scabies is not very unfrequent among the better classes, and will often pass unrecognized. It is well to note that in fully half the cases, the cuniculi or furrows made by the burrowing female insect, are not clearly demonstrable. They may be made very apparent by blackening the surface lightly with ink, which readily soaks into the furrows and leaves them black, while most of it can be readily washed off from the rest of the surface. A single therapeutic caution may be of value—antiparasitic applications may give rise to a dermatitis that marks entirely the original trouble, and this will often be mistaken for an increase of the scabies. It is well, therefore, if the irritation of the skin be great, to stop these stimulating remedies by means of emollients to remove the dermatitis—when the scabies will be found to be cured. Irritation of the skin may unnecessarily be kept up for some time after the original trouble has disappeared.

VEGETABLE PARASITIC DISEASES.—These include favus, tinea versicolor, and all the various forms of ringworm. The limits of my paper forbid my entering at all upon these, which should seldom be difficult of diagnosis, although they are, as is well known, rebellious to treatment. Microscopic examinations are necessary not only for accuracy of diagnosis but also repeatedly during the progress of the treatment, and especially before the patient is pronounced cured in favus and tinea tonsurans or ringworm of the scalp. This microscopic examination is generally not difficult and can readily be learned with moderate practice from the works relating to the subject.

PSORIASIS.—This presents itself sixth in frequency in statistics. This interesting disease has always been a puzzle both to dermatologists and the general practitioner, but I believe that in a large share of cases, sufficient, correct and prolonged treatment, mainly internal, can and will cure the disease, that is, not only remove the eruption but so alter the system that it does not recur.

URTICARIA.—This is seventh on the list, but is vastly more frequent in general practice. The reflex character of this eruption is well known to all, and I can only emphasize the point that search, and persistent search, must be made for the cause, which will be very commonly found in the gastrointestinal tract, or in liver or kidney derangements. The chronic cases are sometimes a great tax upon the patience of the physician.

These rambling remarks have quite exceeded already the brief limits I had set, and I have again to apologize for its fragmentary nature. It was my purpose to direct the thought of the society to the simplicity of the subject of dermatology, and perhaps to throw out a few thoughts which could not readily be found in textbooks. I trust that something which has been said will serve to awaken an interest in dermatology which may be fostered, perhaps, when it is seen that so large a proportion of the actual cases coming for treatment are comprised in so small a category of diseases. With the complete mastery of these seven alluded to, the general practitioner would make great advance in the treatment of a large share of the skin cases applying to him for relief.

ANESTHETICS AND ANESTHESIA.*

BY ELMORE E. CURTIS, M. D., SAGINAW, MICHIGAN.

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THE subject of anesthetics and anesthesia is of interest to every practitioner of medicine, for all physicians, whether surgeons, gynecologists, oculists or general practitioners, have more or less to do with anesthetics. In this paper the two commonly used anesthetics, ether and chloroform, only, will be considered.

The question of the relative safety of the two leading anesthetic agents has agitated the minds of the medical profession ever since chloroform and ether were first put to practical use, and in spite of statistics, reports of commissions especially appointed to investigate the subject, and a great amount of literature on the question, there seems to be about the same difference of opinion, as regards the safety of the two agents, at the present time as there has been in the past.

Bare statistics without any qualifications or explanations show ether to be far safer than chloroform, which I believe to be unjust to chloroform for the two following reasons:

(1) The anesthetic being administered by unskilled anesthetizers.

(2) The after-effects of ether or secondary deaths not being included in statistics.

As to the first reason, the anesthetizer is often one who has no practical knowledge in administering an anesthetic, and perhaps could not give the physiological action of either ether or chloroform, and is not apt to recognize the danger signals resulting from the anesthetic until the danger is so plainly apparent that the patient is in an extremely critical condition; and he may not have any definite plan for resuscitating a patient in danger. Often the anesthetic is entrusted to students, nurses, or even laymen.

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* Read before the SAGINAW COUNTY MEDICAL SOCIETY.

Almost without exception authorities agree that chloroform requires a greater degree of skill to administer than ether, so much so that many surgeons, who prefer chloroform administered to their patients and who believe it is safer when administered by a skilled anesthetizer, will not allow it to be used by an inexperienced person but have them use ether instead.

SHOEMAKER, in his "Therapeutics," states that the greater number of fatal cases of chloroform narcosis, by far, have occurred in the hands of those who did not appreciate the responsibility they assumed in using this powerful agent.

The so-called secondary deaths from ether anesthesia are probably greater than is generally supposed. Unfortunately it is impossible to get any statistics on the subject of any value. There may be some element of doubt as to whether the nephritis or pneumonia with which the patient died was induced by ether or not, and the ether is quite apt to get the benefit of the doubt; or if it does not get the benefit of the doubt, the case is not put on record against ether anesthesia.

GERSTER, in his "Aseptic and Antiseptic Surgery," mentions, on page 121, one case out of fifty-one cases of herniotomy, which died from nephritis, presumably from the effects of ether; and on page 165 out of twenty-nine cases of castration one died from pneumonia, probably induced by ether. Out of eighty cases operated upon, if two had died from chloroform it would have been considered an alarming example of the dangers of chloroform anesthesia.

POPPERT, of Germany, reports seven deaths from lung congestion after etherization. He ascribes all seven deaths directly to the ether and comes to the conclusion that if statistics were collected in which all the after-effects rightly belonging to this agent were included it would be found to be twice as dangerous as chloroform.

Which anesthetic should be used in anemia, shock, extreme prostration from disease or from loss of blood? I am aware that probably a large majority of those who use anesthetics would advocate the use of ether in those conditions; but in defense of chloroform, I would say that many who have had wide experience express a belief that chloroform is the best anesthetic to use in those cases.

In the first place, they consider that practically ether is a heart excitant or stimulant only in the early stage of the anesthesia, the stimulant action not continuing after the full effect is obtained, which places it practically on a par with chloroform. Both are in reality cardiac depressants when pushed beyond the proper limits of anesthesia. It only takes about one-tenth the amount of chloroform to produce the desired effect; each minim possessing some appreciable anesthetic value. The anesthetic can be controlled with greater precision and with a minimum amount of the anesthetic agent.

A short time ago I sent out some fifty letters to different surgeons throughout the United States asking if they would kindly answer the two following questions: (1) What anesthetic is usually administered to patients upon whom you operate, it being taken for granted that if chloroform is usually used, that ether would be used if specially indicated, and vice versa. (2) Your opinion of the relative safety of chloroform and ether when administered by a skilled anesthetizer? Up to the present time I have received thirty-nine replies, twenty-two giving the preference to chloroform, fifteen to ether, one uses the A. C. E. mixture and one has no choice.

Some of these letters are of special interest coming from men of large and varied experience. Here are a few extracts from them:

Doctor Maclean, of Detroit, states that he has used chloroform for thirty years as a routine matter, and never had a death from it, and considers it the safer anesthetic, since any trouble comes while your patient is on the table and under your eyes, while trouble from ether usually comes several days later either from pneumonia or nephritis.

Hal C. Wyman, of Detroit, says: "I use chloroform in my operations because I consider it safer than ether."

Doctor Carteledge, of Louisville, Kentucky, says that in more than ninety-five per cent. of the patients he has operated upon the anesthesia has been induced by chloroform, and in his opinion chloroform is equally as safe as ether, especially if so-called secondary deaths are considered.

Doctor Edward Souchon, of New Orleans, says: "Chloroform is our anesthetic here in New Orleans, and used unless contraindicated."

Doctor Hunter McGuire, of Richmond, Virginia, believes that throughout the civilized world chloroform is given twenty times where ether is once. As medical director of the Confederate Army Corps he reports 28,000 administrations with not a single death.

Doctor J. B. Murphy, of Chicago, has used chloroform much more than ether, never saw a death from any anesthetic, but is afraid of all of them.

The Administration of the Anesthetic.—The administration of chloroform only will be considered. Before the patient is anesthetized, an analysis of the urine and an examination of the heart and lungs should be made. The last meal should be of light, easily-digested food, taken five or six hours before the time appointed for the operation. There is much diversity of opinion in regard to the advisability of giving stimulants, as whisky, or an opiate, as morphine, before commencing the anesthetic. I think that on the whole those who have had the most experience do not consider it advisable unless in special cases where it is clearly indicated. If a patient is extremely nervous and is known to tolerate morphine well, an hypodermic injection of one-sixth or one-quarter of a grain probably helps to quiet the nerves so that the anesthetic is taken more quietly and quickly than without it, though I think we all have often seen patients who were extremely nervous soon become quiet by giving the chloroform slowly and in small amounts until they became accustomed to it, and then pass into the stage of complete anesthesia without any excitement or trouble whatever.

If a patient has been having considerable morphine for some days or weeks before the operation, he should have the usual dose fifteen or twenty minutes before commencing the anesthetic.

The patient being ready, the chloroform should be administered by the drop method, using an **Esmarch** mask or inhaler, the chloroform being added quite slowly at first, so as not to cause any sense of choking or suffocation. It is best to have the patient breathe naturally and easily. They are more apt to come under the anesthetic influence quietly and with regular respiration than if urged to breathe deeply.

The pupil, the respiration, and the condition of the circulation should be kept under constant observation.

Allis, in an excellent article on anesthetics in "Keating's Cyclopedia," states that the effect produced is best known by the character of the breathing, and that one ear is worth a dozen eyes; and that were all anesthetizers blindfolded, there would be fewer deaths. I suppose the point he wishes to impress on his readers is that, if the respiration is regular and full, there is not much danger from any source.

The countenance is usually a good indication of the condition of the circulation. The temporal pulse can be easily felt when it is not convenient to note the pulse at the wrist. I believe the pupil to be one of the best guides to the condition of a patient under anesthesia. The radiating fibres of the iris or dilators of the pupil are supplied by nerve fibres from the ophthalmic nerve and also from the sympathetic system—sensory nerves. When the patient is fully anesthetized and sensation abolished, these nerves being paralyzed, the radiating fibres lose their power and the pupil is contracted. The patient is now ready for operation.

The circular fibres of the iris or the contractors of the pupil are supplied by the oculomotorius nerve which has its origin at the base of the brain near the vagus. If the anesthetic is carried too far, the oculomotorius also becomes paralyzed, the pupils widely dilate, and the patient is in danger of paralysis of the heart or suspension of respiration, or both, through the vagus or pneumogastric becoming paralyzed also.

The pupil, to be sure, also dilates if the patient comes partially out from under the influence of the anesthetic, or if some sudden shock is given to the nervous system, as for instance dilating the rectum; but this condition can be easily distinguished from the dilation caused by too deep anesthesia, as it will usually be accompanied by the usual signs of returning consciousness.

Operating when the patient is not fully under the anesthetic is considered unsafe. There is danger of trouble arising from nervous shock. For the same reason the patient should be kept fully under the anesthetic until the operation is finished, for if the anesthetic is stopped before the surgeon has fully completed the operation, something may happen to delay and the anesthetizer be compelled to reanesthetize the semiconscious patient, which is often quite difficult and much more depressing than continuing the deep anesthesia would have been.

Treatment of Accidents During Anesthesia.—The anesthetizer should have in mind some well defined plan of action in case of complications or accidents occurring during the anesthesia. Stentorious breathing, if troublesome, can usually be relieved by placing the thumbs back of the angle of the jaw and pushing the lower jaw well forward, and, if necessary, holding it there.

If breathing stops with blue countenance—asphyxia—it is usually due to spasm of the glottis, or the tongue falling back over the glottis, and the danger, which is usually more apparent than real, can be relieved by pulling the tongue well forward with tongue forceps, or better still with tenaculum forceps as the ordinary tongue forceps are very apt to slip off the tongue just as the proper traction is being made.

If the respiration ceases with coma or syncope, the condition is extremely dangerous. The patient should have the head and shoulders lowered, the tongue drawn forward, and artificial respiration by **Sylvester**'s method until the normal respiration is restored.

If during the anesthesia the pulse becomes feeble or irregular, strychnine may be given hypodermically, which is also a good respiratory as well as heart stimulant.

The medical journals, of late, have made considerable mention of the **Maas** method of restoring persons apparently dead from chloroform. The method consists, as you probably remember, of placing the ball of the thumb between the place of the apex beat and the sternum and compressing the chest wall quickly and strongly about one hundred and twenty times a minute. Reports state that patients have been resuscitated by this method after artificial respiration, suspension and all other methods had failed.

In spite of all the care and skill with which an anesthetic is administered, there must still remain an element of danger in the procedure. **Doctor D. W. Buxton**, who is recognized as an authority upon anesthetics, states that however careful the anesthetizer may be the fact that death has occurred in the hands of such skillful men as **Snow** and **Clover** proves that such events, howevermuch they may be lessened by skill and care, cannot be reduced to a vanishing point.

A case was reported in *The London Lancet* for August, 1891, in which a robust man was to be operated upon for cancer of the tongue. Chloroform was given by **Skinner**'s apparatus. The patient gave two or three inspirations, when he died as suddenly as if shot through the heart. There was no sign of impeded breathing, no pallor of the face, no warning whatever.

Dunlope refers to a case in which a skilled chloroformist required a young and healthy patient to count as he began the chloroform. While the patient was counting, and when he had reached twenty-five, his face suddenly became blanched, the pupils widely dilated, and the pulse and respirations ceased at once.

Cases are recorded in which death has taken place as suddenly and with as little warning with ether.

The Medical News, of New York, reports a case in which a woman, aged forty-one years was being etherized for the removal of a uterine fibroid. The heart became feeble, there were a few weak efforts at respiration and all was over.

At the Stockport Infirmary, England, a woman, forty-four years of age, was to be operated upon for cancer. Before she was completely under the influence of ether there was a sudden stoppage of the pulse, and death took place in less than a minute from failure of the heart's action.

A case is mentioned in *The Universal Medical Sciences* in which a male, aged twenty-four years, was etherized for some minor operation, only about one and one-half ounces being used. He regained consciousness in about half an hour, then suddenly became blue in the face, gasped for breath and died in two minutes.

The Physician and Surgeon, for March, reports a death from ether in New York City, where only two drachms of the anesthetic had been used.

These cases show that with all possible care there have been, and will continue to be, deaths from anesthetics, but with skill and care I believe chloroform to be as safe as any of them.

CONSTIPATION AS A CAUSE OF RECTAL DISEASES.*

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EVER since the dawn of that morning when, in the history of the world, medicine and surgery were in their infancy, up to the present time, when they stand for so much that is grand, noble and good, and in the vigor and strength of perfect manhood battle with more sturdy and subtle strokes the old arch-enemy of mankind—disease, the physician, in the study of disease and the ways to combat it, has always been looking for the cause; and in no other class of disease is the finding out of the cause and removal of the same so important as in rectal diseases.

If I were asked the main cause of all the different manifestations of diseases in the rectum, I would unhesitatingly say constipation. That is my reason for bringing this time-worn subject before you tonight; not that I expect to advance anything new or startling, but to try and impress upon you all the dangers of constipation and urge a more conscientious study of the subject.

In order to fully understand how constipation acts as a factor in the causation of rectal diseases, we can find no better way than by studying the process of defecation in health and in the constipated state. The process of defecation is simply the passage of the feces along the large intestines through the sigmoid flexure, and into the rectum by peristaltic action. The pressure of the feces by a reflex action stimulates the sphincters, and if the call of nature is attended to they relax, a portion of the mucous membrane is everted, the feces are ejected, the levator ani draws back the mucous membrane; then the sphincters contract. If, for any reason, the call of nature is not obeyed, the feces, after remaining a certain length of time, are carried back into the sigmoid by a reverse peristaltic action, and there the liquid portion is absorbed. After this absorption a more or less solid mass remains in the sigmoid until the time for the next evacuation, and then may pass on and out, or portions may remain for weeks and months, until they become almost as hard as a stone.

When these hard scybalous masses pass down through the rectum, an erosion of the mucous membrane is often produced, which, in turn, if the constipation with the attendant irritation is continued, induces ulceration of the rectum. WARRINGTON HAWARD, in the "Annual Universal Medical Sciences," page 35, 1889, reports two cases of rectal ulcer and one of ulcerated hemorrhoids, due to constipation. In the same work, page 15, 1893, KELSEY quotes GIBBS as follows: "GIBBS holds that where cancer, tubercle, and dysentery can be excluded from the etiology, ulceration, no matter how extensive, is more likely to be due to some simple cause, as constipation, straining, surgical traumatism or syphilis." Many more authorities might be cited to prove this but it would exceed the limits of this paper. We frequently have as a result of the passage of these hardened masses, a tearing of the mucous membrane called a fissure. KELSEY says, in the above mentioned work, page 4, 1893: "Many authors say that the first cause is a longitudinal slit from over-distention during the passage of a hard motion or an abrasion from some particularly hard fragment of feces." CHRISTOPHER HEATH says in regard to fissures: "Now, a fissure in a great

* Read before the GRAND RAPIDS ACADEMY OF MEDICINE.

majority of cases is, I believe, a tear. The patient has happened to have a very hard motion which has been forced through the sphincter, and has distended the part, and torn the mucous membrane." This is no doubt the explanation of fissure in most cases. When these hardened masses pass through the sphincter, the mucous membrane is more or less everted; and the sphincter, being very irritable and somewhat hypertrophied, contracts before the levator and has a chance to draw the mucous membrane back, and external hemorrhoids result.

Christopher Heath, **Kelsey**, **Matthews** and others claim that constipation is a marked cause of external hemorrhoids, and I have never had a case that I could not trace back to constipation as the exciting cause. The presence of these hard fecal masses and the contracted hypertrophied sphincter impedes the circulation in the rectum, and acts as an exciting cause in the formation of internal hemorrhoids. Constipation also acts as an exciting cause in a large percentage of the cases of exzema and pruritus ani. **Doctor Louis H. Adler**, in a paper on "Constitutional Treatment of Pruritus Ani," published in *The Philadelphia Polyclinic*, page 435, Volume IV, Number CXLIII, says: "Chronic constipation is the most frequent cause of pruritus ani."

The long continued passive congestion of these parts causes a thickening of the mucous and submucous coats, also an enlargement and pouching of the lower third of the rectum, which in the end impairs peristalsis, and thus aids in the formation of this vicious circle. The impaction of the feces in the sigmoid flexure often causes a catarrhal inflammation of the parts, which is sometimes followed by hemorrhage, perforation and death. In an article in *The Boston Medical and Surgical Journal*, page 211, Volume CXXXI, Number IX, **Doctor F. B. Lund** reports a case of cancer of the sigmoid, with perforation and death, due to chronic constipation (hemorrhoids in the case). **Doctor Pye Smith** also cites a similar case but this was relieved by colotomy. **Mr. James Berry**, in *The British Medical Journal*, page 301, Number MDCCXXVIII, 1894, reports a similar case. All these cases point directly to constipation as the cause of all the trouble. An evidence of this catarrhal condition of the sigmoid and rectum is the finding of the fecal lumps coated with a thick, sticky, mucous discharge and more or less free mucus in the stool. The continued pressure of these hardened fecal masses and the passive congestion frequently causes first an inflammation, then as the cause is not removed, the inflamed process continues and finally a rectal abscess is formed. If this be not treated properly, rectal fistulæ result. A loss of the muscular tone of the rectum also ensues, due to the thickening of the mucous and submucous coats, and consequent atrophy of the muscular, until finally the muscle is apparently paralyzed and prolapsus recti follows. Constipation, according to **Erichsen**, is not an unfrequent cause of prolapsus recti. I might cite other authorities but time will not suffice.

Fecal impaction may ensue and we may have pains referred to the uterus or genital tract, while the whole trouble is in the rectum. The passive congestion of the sigmoid and rectum, with the attendant constipation, acts as a cause in the formation of stricture. **Doctor Fuller**, of Massachusetts, in *The Journal of the American Medical Association*, page 105, Volume XIX, Number IX, reports the case of a woman whom he had relieved seven times of fecal impaction following childbirth, in whom the autopsy showed several strictures due, primarily, to constipation.

I wish to report just two cases to show better the relation between constipation and rectal disease.

E. B.. aged fifty-two years, consulted me February 12, last. The general health of the patient was good, there was no disturbance of digestion, but he had acquired a constipated habit. Rectal examination showed four large internal venous hemorrhoids with a small ulcer situated posteriorly about an inch from the anus. I advised an operation, but the patient was obliged to wait a week before having it performed, so I prescribed a small dose of sulphate of magnesia, and sulphate of iron for the attendant anemia, and in a week's time he returned to my office cured. There were no rectal lesions remaining whatever.

The other case was one of marked pruritus ani and internal hemorrhoids, and both disappeared after the patient had been relieved of her constipation.

If, in my humble way, I cause you to become again interested in the subject of constipation, to study it more fully, and to try and prescribe with the end and aim in view of removing the cause, instead of merely palliating the condition, I shall feel that the time spent in the preparation of this paper has not been wasted.

ABSTRACT OF SOME REMARKS ON APPENDICITIS.*

By J. H. CARSTENS, M. D., DETROIT, MICHIGAN.

PROFESSOR OF OBSTETRICS AND CLINICAL GYNECOLOGY IN THE DETROIT COLLEGE OF MEDICINE; CHIEF OF STAFF AND GYNECOLOGIST TO HARPER HOSPITAL; EXPRESIDENT AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS, ET CETERA.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

MY fossil friends say appendicitis is a great fad, but if you will consider for a moment that my cases come to me from a radius of hundreds of miles, and are nearly all sent by physicians whose combined practice represents a million population; and, if you then strike an average, you will conclude there are not so many cases of this disease. At Harper Hospital last year we had thirty-one cases. Every hospital in the city has had a number. A good many have recovered without going to the hospital, some even not being recognized. From the best information I can get, I am convinced that there occurred in this city alone, about one hundred cases of appendicitis—certainly not more than one hundred and fifty, giving about one case to every two thousand of the population. The general practitioner would not see a case more than once in two or three years.

This disease was formerly seldom recognized. It was said that a patient died of peritonitis. But by calling attention to it repeatedly, the general practitioner is now aroused—is constantly on the lookout for it—and finds appendicitis, where formerly he would not expect it. Another point about this disease is that general practitioners claim it is a mild disease, and easily subsides with simple treatment, such as opium, ice bags, and hot poultices; and I have had physicians tell me that they have had eight or ten patients all recover, or perhaps only one dying in fifteen to twenty cases, and that I, as an operator, can show no such record. I do not get the easy cases; I get them when medical treatment has failed. Even when they are in articulo mortis I find I am expected to do magic. What we claim is, that all cases of appendicitis should be seen by the surgeon jointly with the family physician, and as a rule operated upon. Although a very small percentage will have only one attack, the vast majority (from my experience I should say from eighty-five to ninety per cent.) will have recurring attacks, and that during the second, third, or tenth attack, rupture will take place, and the patient will die, not to say anything about the pain and suffering they have to undergo in the meantime.

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*Read before the DETROIT ACADEMY OF MEDICINE.

All cases of peritonitis not due to puerperal or pelvic diseases in women are caused by appendicitis, except four per cent. which are due to perforation of the bowels, caused by ulceration, malignant growths, et cetera. During the year 1895, I operated upon seventeen cases of appendicitis. These seventeen cases had altogether forty-six different attacks. Some of these attacks were mild, and others were severe. Some of the patients were repeatedly confined to bed from six to twelve weeks; they were suffering from septicemia, and hence were invalids.

I report a few of my cases as follows:

CASE I.—Miss M., of Ontario, aged twenty-two years. Kindly sent to me by DOCTOR MULHERN! She had had three attacks. Seemed in very good health, but when the abdomen was opened, at Harper Hospital, I found that she had tubercular peritonitis—something I had not expected. I removed the appendix and washed out the abdomen with bichloride solution. I sewed the incision with *en masse* suture of silkworm-gut. What connection there was between the tubercular condition and appendicitis, I do not know. The patient has entirely recovered.

CASE II.—Miss A., aged twenty-two years, of Lansing. Kindly directed to me by DOCTOR GANNING. She had had six attacks. During some of these she was confined to bed for three to four months. I operated on her May 18, at Harper Hospital, during quiescent stage, using kangaroo tendon suture. She made an ideal recovery.

CASE III.—Mr. M. A., aged forty years. Kindly sent to me by DOCTOR SCHORR. He had had appendicitis for three days, and this was apparently his first attack. I had him removed to Saint Mary's hospital and operated on him August 3. The appendix was gangrenous. I used a gauze drain and silkworm-gut sutures. After the operation he was taken with symptoms of delirium tremens, and died within forty-eight hours of sudden heart failure.

CASE IV.—Minnie S., aged two and one-half years, of Fowlerville. I was kindly called out there by DOCTOR AUSTIN. This little girl had had four or five attacks, properly diagnosed by the doctor as appendicitis. I found the appendix ruptured and gangrenous. Operated September 16, using a gauze drain and silkworm-gut sutures. She made an uninterrupted recovery.

CASE V.—Mr. C., aged thirty-five years, of Tecumseh. DOCTOR NORTH called me there to operate for appendicitis. I found the diagnosis correct, and removed the ruptured appendix September 12. Used a gauze drain and silkworm-gut sutures. This patient also made an uninterrupted recovery.

Nine operations were performed during the acute stage, that is after perforation, had taken place, with three deaths. Eight were operated upon during the quiescent state, with no deaths. These seventeen cases represent forty-six different attacks, leaving twenty-nine attacks, which were treated on general principles without a death; so that the general practitioner can say he had twenty-nine cases without a death, while I had seventeen cases with three deaths. But, if I should add to this list the cases I have seen during the year in consultation, which were not operated upon and which died, I could give the general practitioner, to use a popular term, "double discount." If, in the light of our present knowledge, we take one hundred consecutive cases, and have them treated by constitutional and local medications, how many do you think would die? Then take one hundred consecutive cases operated on within twenty-four hours, or as soon as the diagnosis is made, and how many of this class of cases would die?

TRANSACTIONS.

DETROIT ACADEMY OF MEDICINE.

STATED MEETING, JANUARY 28, 1896.

THE PRESIDENT, W. R. CHITTICK, M. D., IN THE CHAIR.
REPORTED BY C. W. HITCHCOCK, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR CARSTENS read a paper entitled "Some Remarks Upon Appendicitis." (See page 261.)

DOCTOR H. C. WYMAN: I was very glad to hear the doctor's paper; I came to the meeting especially for that purpose. The doctor did not mention any of those unfortunate cases which terminate spontaneously in abscess, opening in the vicinity of the crest of the ilium or along Poupart's ligament. Recovery from these conditions may ensue but it is often with fecal fistulæ or other deplorable sequelæ. A case once came to me from the late DOCTOR PECK, of Davenport, Iowa, with fecal fistula, nothing being said as to the appendix, but I was later able to demonstrate the origin of the trouble as in the appendix. The mortality mentioned by the doctor is somewhat startling, but I do not know as I can offer any suggestions. I do not regard the operation as serious in itself, but neglect of operation is serious, and the patients should understand that there is danger in the disease itself and not in the operation. My fatal cases have been those in which the extent of the disease and infection therefrom have caused a fatal ending. I have seen some specimens of chalky deposit, which perforated, some beans, a date seed, et cetera. I believe there may be in many cases an ulceration like that seen in Peyer's patches and that by these foreign bodies this inflammatory action is aggravated and perforation may ensue.

DOCTOR GEORGE B. RUSSEL: I have lately seen reports of DOCTOR DEAVER'S cases—a remarkable success—two hundred cases with only two deaths. I recall two cases, one in which the abscess discharged through the bladder and one in which the discharge was through the bowel. These cases were called peritonitis in those days; but they were probably cases of appendicitis.

DOCTOR P. M. HICKEY: I am reminded of a case seen two or three years ago, a young doctor who recovered from one attack, had another, was operated upon, and has now developed tuberculosis. The doctor now regards the first attack as probably of tubercular origin.

DOCTOR A. D. HOLMES: I wish the doctor might advise us as to the time to operate. I have seen a few cases, two or three, perhaps. I should like to know just what symptoms are positively diagnostic, and just what are the positive indications for operation.

Doctor L. E. Maire: I would like to ask the doctor if there are any cases on record where peritonitis has succeeded the operation.

Doctor C. D. Aaron: The paper brings to my mind a case of a young woman who had frequent attacks, and I told her that she must be operated upon. Doctor Carstens removed a hydrosalpinx and diseased appendix and I have the specimen here and am glad to show it. Doctor Edebohls, of New York, has advanced a theory, in which he ascribes to pressure the most importance as an etiological factor; pressure upon the mesentery of the cecum producing a congestion, which is readily aggravated into an acute inflammatory condition.

I heard Doctor Willy Meyer say he would operate only under certain conditions and that he would be guided by the pulse. If it were 120 or more he would operate.

Doctor W. P. Manton: Three points especially interested me: (1) The doctor stated that he had rescued sixteen of these cases from the general surgeon. Of course, I believe that these cases should go to the abdominal surgeon, who makes a specialty of this work. (2) The large number of attacks which the combined cases had had. (3) His excellent recoveries.

Doctor W. R. Chittick: In the case of a boy seven years old, the appendix was so small that it was not at first recognized. I have seen several cases in which I thought that taking cold had much to do with the origin of the trouble.

Doctor Carstens: The question of causation is a grave one. I, too, have a theory. Here is an organ, which in evolution is becoming effete. The appendix has no circular fibres like the intestine and this accounts for the infrequent dislodgment of foreign bodies which happen to be caught here. They are easily caught and by their presence irritate and inflame the tissues. Constipation, the "great American disease," as it has been called, is one great cause, from distention of the colon, the mouth of the appendix thus becoming distended with fecal matter. I cannot agree with Doctor Wyman as to the frequency with which seeds are found. I scarcely ever find seeds and can only recall two cases in which seeds were found, though I do find enteroliths in most of my cases. Doctor Holmes asks as to time for operating. The time to operate is when you diagnose appendicitis. Patients with this disease are in constant danger. The only safe way is to operate as soon as you diagnose the disease, before rupture has taken place. After rupture, the chances for recovery are very greatly lessened. There is no trouble in diagnosis, with your finger on McBurney's point, though mistakes are, of course, liable to occur. Operate on all cases as soon as you diagnose. You can operate on all cases if you only put it before patients in the right way. Any patient will go to the hospital, if the necessity is properly put to him, *emphatically and with no uncertain sound.* I never let a case alone now if I diagnose appendicitis. I do not wait an hour. I operate at once. Procrastinating and awaiting the progress of cases have taught me a lesson. If there is the least chance, I operate.

Doctor H. C. Wyman: Do you not think, doctor, that the removal to the hospital may be a source of danger and increase the mortality? I believe any house can be made suitable for this operation.

Doctor J. H. Carstens: I do not think so. I think the advantages of a hospital are so many that the chances are far better there.

Doctor Wyman: I do not believe that any child with a walled-off intestinal abscess can be moved about in an ambulance, placed on the operating table, et cetera, without materially increasing the danger.

Doctor Carstens: I believe the danger of removal to the hospital slight and the advantages many.

STATED MEETING, MARCH 16, 1896.

The President, W. R. CHITTICK, M. D., in the Chair.
Reported by C. W. HITCHCOCK, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor Campbell read a paper entitled "Can Exophoria be Cured Without Operation?" (See page 244.)

Doctor Leartus Connor: The questions associated with muscular disturbances of the eye are among the most important in ophthalmology. The paper dealt with some of these in a manner at once interesting and suggestive. The answer to its question—"Can Exophoria be Cured Without Operation?"—by one at all familiar with the work of American ophthalmologists, must be an emphatic affirmative. My own personal experience supports this answer. Anterior to 1894, I had treated with varying success many cases of exophoria. by the various methods then advocated. Since than I have used the "convergent stimulus" method, so forcibly brought before the profession by Doctor George M. Gould, with the happiest results. Of my first fifty cases, I kept careful records, and followed them after their discharge. There was but one failure, and this was a presbyope, who had been operated upon by another surgeon some years previously, In each other case there was entire relief from the distress induced by the exophoria, and in all cases the exophoria remained corrected to date of last examination. In all such, examination was made a year after discharge and in some but a short time since. The exophoria is varied from one degree to ten or twelve. In one case there was a six-degree of hypophoria complicating the exophoria. The disappearance of both the vertical and lateral deviation, at the same time was noted. This case has remained orthophoric to as late as last week. The older methods, by electricity and constitutional measures, no good physician will neglect, but the convergent stimulus method of Gould, is by all means the most satisfactory, though it presupposes that the constitutional measures have been employed and failed. There is one class of cases in which we find a high exophoria at reading distance, though orthophoria or esophoria may exist at distance and hypermetropia. These cases have defective relative convergence, and a weak ciliary muscle, and are best dealt with by fully correcting the hypermetropia, as determined under atropine, and also any associated astigmatism. Generally this procedure brings the adduction to its normal standard. If not, the treatment by convergent stimulus completes the treatment. Doctor Theobald and Doctor Woods, of Baltimore, have called attention to this condition, and my own observations have convinced me that their suggestions have a positive value. Generally the use of glasses for the correction of either exophoria or presbyopia complicated or not with astigmatism renders the exophoria more annoying, but in the class of cases mentioned, the reverse is true. We have all operated many times for exophoria, and some of us wish that we had operated less frequently, as we have been compelled to advance muscular attachments which we had divided. Incidentally we have learned that operations for esophoria and hyperphoria are, if judiciously made, a source of satisfaction, to operator and patient. Very gratifying is the use of the convergent stimulus in cases of hardened lens, with exophoria, which are distressed by the wearing of the glasses needed to obtain distinct vision for reading. The causes of exophoria are full of interest, and not always easy to determine, but time does not admit of their discussion now. It has been shown that while a parallelism of the optic axes for distance is normal, an exophoria of about four degrees at reading distance is also normal. When this standard has been reached by any means of treatment, we may know that our art is at an end in this direction. Further, the normal balance of adduction to abduction has been fixed as about five to one, so that when our treatment has effected this balance of the opposing recti, we have done what is possible in this direction. My own observations show that when an asthenopic case has been placed in such a condition that there is orthophoria for distance, and exophoria of four degrees at reading, and the power of the internal to the external recti made as five to one, then we have gained all the relief from asthenopic symptoms which muscular corrections will secure. My method of dealing with cases of asthenopia, with exophoria, is—(1) Ascertain and correct under a mydriatic, all the ametropia; (2) If the patient be still uncomfortable, and exophoria exist, treat this by convergent stimulus. If these steps be taken with care and thoroughness, but few cases will remain unrelieved. (3) It is possible that a case may occur in which the division of the externus or the advancement of the internus may be called for. But the conviction grows on me that but few will fall under the latter head.

DOCTOR L. E. MAIRE: It is refreshing to hear definite ideas on such a subject. I have made a number of operations, and today feel more cautious than ever in the matter. The nervous element plays an important part in many cases. In very high degrees of exophoria, I believe tenotomies advisable. Partial tenotomies will greatly aid us here. I am glad to know of the doctor's good results and I shall push the gymnastic exercises more vigorously.

DOCTOR WYMAN: I experienced great pleasure in listening to the paper, and wished that DOCTOR CAMPBELL would make it evident to the general practitioner what the real symptoms are which enable a diagnosis of this condition. He had heard "pain," "misery," "discomfort," et cetera, referred to, but he had popularly supposed that only the wearing of prisms made evident the existence of the condition. If so, he thought it might be well, perhaps, to restrict the use of prisms.

DOCTOR BIDDLE: I wish to testify to the detailed care with which I know, from personal observation, all of DOCTOR CAMPBELL'S work was done, and how carefully the use and principles of prisms were explained to patients.

DOCTOR HITCHCOCK: I desire merely to raise the query as to whether a graded tenotomy could possibly be made a scientifically exact operation.

DOCTOR CONNOR: By aptly comparing the end to be accomplished to the adjustment of trousers by loosening the suspenders, I think this could be done to a satisfactory nicety.

DOCTOR CHITTICK: In answer to DOCTOR WYMAN, I may say that I had no symptoms, though considerable deviation. I think DOCTOR STEVENS is now doing less tenotomies than heretofore.

Doctor Campbell: **Doctor Connor**'s remarks have, I think, fully answered the question asked by **Doctor Hitchcock**. There are no symptoms which point distinctively toward exophoria, and the condition cannot be diagnosed by subjective symptoms. Truly, many cases are accompanied by a train of symptoms known as asthenopia, but that same train of symptoms is common to many ocular defects which are characterized by "eye strain" It is only by the use of the phorometer or some similar instrument that we are able to diagnose accurately the condition. Many points in the relationship between hyperphoria and exophoria seem anomalous, but they are probably often interdependent, and the cure of one defect will frequently be followed by a disappearance of the other. Those cases in which we have a considerable muscular deviation, say 4° or 5° in the horizontal, or 8° or 9° in the vertical, plains, are instances of the sacrifice of binocular single vision for the sake of comfort, the muscular effort necessary being so great to secure binocular vision, the effort is no longer made, hence, there being no eye strain, no symptoms follow. I thank the gentlemen who have participated in this discussion for the kindly manner in which they have handled it.

DETROIT MEDICAL AND LIBRARY ASSOCIATION.

STATED MEETING, FEBRUARY 10, 1896.

The President, ERNEST T. TAPPEY, M. D., in the Chair.
Reported by WILLIS S. ANDERSON, M.D., Secretary.

DISCUSSION OF PAPERS.

Doctor W. R. Chittick read a paper on "Effect of Heart Strain Upon the Tricuspid Valve." (See page 248.)

Doctor Sherrill: The doctor has done well in calling our attention to this subject. I can only wish, for the benefit of the members present, that the discussion had fallen to the lot of someone who could offer more practical knowledge upon it than I can. As he says, the literature on this subject is rather meagre. Insufficiency of the valves on the left side of the heart is one of the most frequent forms of heart disease. The cases are much rarer in which the trouble originates on the right side of the heart, and of the forms of disturbances which we have—whether stenosis or regurgitation—by far the greater proportion are disturbances of the nature of regurgitation. **Balfour** states that in the course of ten years he had met with but four cases of tricuspid stenosis which may be taken as an indication that that condition is comparatively rare. The doctor refers to the varieties of heart strain, such as those due to vigorous athletic exercise, and to pathological conditions, as well as those cases in which we have a long continued tax upon the heart. Of course we can all appreciate the fact that if we have short distances to walk and can fortify ourselves with suitable food and rest we can make these distances very well, but if we have to walk for a considerable length of time then comes in the element of strain. I believe it is a fact that in pathological conditions of other parts of the body of comparatively short duration the tricuspid valves are not likely to be disturbed; for instance, in attacks of pneumonia you are not so apt to have lesions of the tricuspid valves, but when you have it working against chronic conditions such as chronic bronchitis and emphysema, where the circulation is very much impeded, you almost invariably get lesions of these valves. Some very interesting reports were made with reference to the effect upon the heart of forced muscular exercise at the Congress of International Medicine held in 1894. Several men were made to undergo physical exertion until decided shortness of breath was brought about after which careful examinations were made and it was found that there was very decided dilatation of the heart. It was observed that if the exercises were pushed to a considerable extent that very severe pain would develop in the region of the heart, and it was found necessary to treat this condition by absolute rest in bed, and even anodynes with hot applications over the heart were often demanded. It was found that when the men entered with sound hearts recovery was complete, but when heart lesions existed previous to the forced marches recovery was not thorough. I recall the case of a young man who was an expert bicycle rider. Last summer he entered as a competitor the twenty-five mile road race held on Belle Isle. After having ridden for some time he was seen to weaken, a sense of oppression in the region of the heart came over him, he lost control of his wheel and fell over in a helpless condition. He came under my observation. I could not detect any lesion of the tricuspid valves but I fully believe that the trouble was due to overstraining of the heart in the race. He was directed to take the greatest care of himself as the least overexertion might cause a return of the trouble.

DOCTOR FLINTERMANN: The topic discussed in the paper is not very much treated of in the textbooks. As to the pathological condition in such cases as the doctor reports here I should feel inclined to regard them as he does—pathological changes of a secondary nature. We have to distinguish between acute and chronic overstrain of the heart. When we have to do with chronic causes certainly I believe that the tricuspid insufficiency is of a secondary nature. In true affections of the tricuspid valve which we find in cases of stenosis of the ostium venosum, whereby there is an effort on the side of the right heart to overcome any imposing obstacle preventing the blood from being emptied into the left atrium, a secondary dilatation will follow of the right heart, and by the dilatation a so-called relative insufficiency of the tricuspid valve. I did not understand DOCTOR CHITTICK to say that there was any so-called irritation of the tricuspid valve caused by endocarditis, but only by the mechanical effect of overburdening the heart. Now, the causes of dilatation of the right heart and insufficiency of the tricuspid valves are but so-called chronic overstraining of the heart, such as over-indulgence in food, in drinking and the use of tobacco. In cases of arteriosclerosis, in which the left ventricle fails to empty the blood into the aortic system, and in which congestion takes place which cannot be overcome by the right heart, certainly we have to look out for such affections as the doctor describes. Now, in acute cases of overstraining of the heart, as by overlifting, et cetera, I have observed that condition which the doctor mentions in his paper. I remember the case of a man—known among his associates as the one who could lift the largest number of bricks in the yard—who, one day while attending to his work, suddenly fell down exhausted and had to be brought to the hospital. When examined it was found that the pulse was very weak, the breathing very labored, and the patient in a most serious condition. Hypodermic injections of morphine were prescribed with digitalis and rest in bed, and recovery was so far complete that he was able to go to work again in a short time, but in trying to do the same work met with the same trouble and is now a chronic invalid.

DOCTOR LONGYEAR: About three years ago last summer another physician and myself were up in the north woods and we went on a fishing excursion, and with us was a well-known lawyer of this city sixty-four years old. One night we were belated and lost our way and had to walk a long distance in a very thick bush and this gentleman became exhausted. I tried his pulse and found it was very rapid—120 per minute—and very weak. He had no valvular trouble and never had. We helped him and he struggled along, but every ten or fifteen minutes he would slide down to the ground in a helpless condition. We at last arrived home and administered a good drink of whisky to him. He expressed himself as feeling perfectly well. He seemed to have no further trouble after that attack, but during the past summer he has frequently complained of pain over the right shoulder on walking. The heart's action was quite strong and no valvular insufficiency could be detected, yet the heart seemed to be very slightly dilated. Recognizing that it was something of a serious condition in a man of his age, and as he was going to New York, I asked him to see DOCTOR DELAFIELD, who pronounced it a case of chronic arteritis. Whether this condition existed previous to the attack which I have described or not I do not know. There is no valvular difficulty at any time.

DOCTOR HITCHCOCK: I would like to ask if the lighthouse keeper's case was ever demonstrated to be one of tricuspid disease.

DOCTOR CHITTICK: It was so diagnosed by DOCTOR TILTON, the army surgeon at the post.

DOCTOR HITCHCOCK: I would like, also, to ask on what ground DOCTOR CHITTICK based his diagnosis in the case related by DOCTOR BIGG.

DOCTOR CHITTICK: That was a test case and did test the knowledge of the members present. I based my diagnosis on the fact that there was a murmur with the first sound of the heart in the middle of the sternum, that it was not heard at the apex, and was not carried around to the posterior side of the heart, and the patient had digestive trouble, vomiting after every meal, with marked jaundice.

DOCTOR FLINTERMANN: I would like to ask if there was any evidence of renal trouble.

DOCTOR CHITTICK: I know of nothing of that nature.

DOCTOR FLINTERMANN: The man I reported about had renal trouble. We should always look for albuminuria. In cases of tricuspid valvular disease we have venous congestion of the lungs and these patients will very often die from so-called pneumonia caused by congestion or pulmonary apoplexy. In cases of mitral affections I think we will see more often acute edema of the lungs, but that is very often difficult to ascertain.

DOCTOR CHITTICK: I have very little to add to the discussion. Valvular lesion may occur on the right side under certain conditions. Tricuspid lesions follow chronic mitral disease, but it is hard under these circumstances to distinguish one murmur from the other, and frequently in tricuspid valvular disease, when mitral disease coexists, it is hard to distinguish between the two and what proportion of the difficulty to ascribe to each valve. The main point I wished to bring out was that tricuspid disease could originate in that valve without any mitral lesion.

EDITORIAL ARTICLES.

THE MICHIGAN STATE MEDICAL SOCIETY.

ANOTHER success must be recorded to the State Society. The meeting at Mount Clemens took place amidst medicinal odours and surroundings. The health-giving waters always attract the presence of the crippled and disabled, and the town wears a clinical expression, which makes it a suitable place for medical gatherings. The energetic work of the local reception committee left nothing to be desired in meeting the convenience of members and securing their comfortable entertainment.

The work of the sections was full of attainment. Good thoughtful papers and zealous discussions gave vitality to the gathering, and the interchange of experience the opportunity afforded, gave reason for the existence of such organizations as the State Medical Society.

The new departure in the form of a banquet cannot be too highly commended. Such occasions give rise to demonstrations of good feeling, which must have a tonic effect upon the moral tone of the Society. The exhibition of fraternal feeling and brotherly love which emanates from the flowing bowl is not to be despised, and is often intrinsically more valuable than much which is conventionally received with moral ardor or mental enthusiasm.

REGISTRATION OF DEATHS IN MICHIGAN.

ELSEWHERE appears an extract from the "State Registration Report" now in press in regard to the mortality in this state during the year *1894*. While the data therein contained are of permanent value, it must be confessed that they would have had much greater interest to the people and profession of the State had they been somewhat more timely. Nearly two years is a long time to wait for facts of this character if they are to be made of any practical use before the conditions to which they refer disappear. A reform would seem to be necessary in our registration methods in order to secure more immediately useful statistics.

In another respect these statistics are open to serious question. The death-rate of Michigan for the year 1894 is stated to be nine and three-tenths per one thousand population according to the returns. This shows the returns to be absurdly imperfect. While Michigan presents unusual advantages for health and longevity, and the death-rate of the State, could it be accurately known, would doubtless compare favorably with those of other states and countries, to set forth such statistics as these with a view of inducing strangers to entertain favorable views of the sanitary advantages of Michigan, is simply to invite ridicule and distrust. DOCTOR BILLINGS, the expert in charge of the last two United States census enumerations of vital statistics, estimates that the death-rate of Michigan is between seventeen and eighteen per one thousand. DOCTOR WILBUR, making a somewhat more favorable estimate, concludes that the deaths returned would require to be increased by at least sixty per cent. to approximate the true number, thus giving a death-rate between fifteen and sixteen per one thousand population. Whichever view is adopted, the fact remains that an enormous number of deaths is annually omitted from the registration, and that in consequence thereof its important purposes are largely defeated.

These remarks are not intended as in any sense criticizing the operation of the state department on the presentation of the matter in the report. The editor of this has taken the utmost pains to derive all possible reliable information from the data obtained under the present law, nor has he been wanting in cautioning the casual reader in regard to imperfect and misleading data. These remarks are simply intended to call the attention of the profession to the need of amendment of the present registration law at the next session of the legislature. A bill for this purpose has been prepared by a committee of the State Medical Society, and will, it is trusted, meet with favorable consideration.

THE MICHIGAN PROTECTIVE LEAGUE.

THE formation in the State of a protective league is an event which will be hailed with enthusiasm and gratitude. The needs of professional organization were never greater, and nothing but good can be expected of the league organized last month for the purpose of securing legislative protection.

Michigan is now among the states whose medical laws are void and null, so far as protection of the public from quacks and imposters is concerned. This condition of affairs would have been better had it not been for the extraordinary action of the Governor in vetoing the enactment of the last legislature. It will be the duty of every practitioner, of whatever school, to rally to the support of the newly-formed league. Protective laws can easily be enacted if a solid front is presented, and before a year is passed we shall possess a State licensing and examining board which will compare favorably in efficiency with that of any State in the union.

The president of the new league, DOCTOR E. L. SHURLY, has been wisely selected. DOCTOR SHURLY's emphatic stand in favor of righteous legislation has marked him for a leader who will conduct the profession into the land of promise. His long connection with medical education will fortify his knowledge of the requirements of the situation, and the profession may rest assured that the practice of medicine, so far as it can be regulated by the new league, will be purged of the evils of medical illiteracy, incompetency and irresponsibility.

ANNOTATIONS.

THE HEALTH-OFFICER AND THE ICE SUPPLY.

A GREAT mortality results under the most stringent hygienic regulations from water-borne disease. Now that the hot weather is here, municipalities and corporations may wisely look over their ordinances with a view of deciding how far the health officer may go in the condemnation of ice. It is unquestionable that much of the ice supply is harvested from unfit sources, and is likely to be infested with dangerous germs. The advice that people should boil their ice before using, is unquestionably hygienic, but not exactly practical when the mercury begins to climb.

THE NEXT PANAMERICAN MEDICAL CONGRESS.

THE Second PanAmerican Congress is to take place in Mexico during the third week in November. The climate of the city of Mexico at this time of the year is exceptionally delightful, and it is hoped a large number of our professional friends will assist in the affairs of the congress. The Mexicans were particularly able and enthusiastic members of the last congress at Washington, and will not be found wanting in all the arts of hospitality and friendship.

WHAT THE X RAY IS NOT.

To the X ray will undoubtedly be ascribed powers little short of the marvelous. It will therefore be well to keep informed as to what it will not do. In denial of recent assertions to the contrary, DOCTOR STERNBERG assures us that experiments prove that the X ray is not a germicide. Bacilli developed in a culture as freely under its influence as without it. DOCTOR WILLIAMS, of Boston, also exposed his head of hair to the action of the rays, and is not now affected with alopecia, so concludes that it is not a depilatory.

CONTEMPORARY.

MEDICAL COMPETITION AND PICTURES.

[THE MEDICAL NEWS.]

EVERY person has been amused, as well as disgusted, by the rage for illustrations that has seized upon the community. The old-time advertisements of the powers of the actor or the virtues of some nostrum are now replaced by portraits and illustrations infinite in number and variety and execrableness. The "regular" profession is imitating the quacks in this respect, and catalogues, prospectuses, and reports of hospitals may contain more pages of pictures than they do of text.

MEDICAL CHARITY.

[THE MEDICAL RECORD.]

WHEN an institution is founded money is provided to pay nurses, attendants, servants, druggists, everyone but the physician, and yet he is the mainspring; without him the institution could not exist. No one would think of asking a drug firm to stock a dispensary free of charge, of sending a missionary out without seeing that his material wants were provided for, of asking a clergyman or a lawyer to give his services without recompense. No one ever questions the right of these men to a reasonable compensation. Why, in the name of common sense and justice, should more be required of the medical profession than others?

"WHAT FOOLS THESE MORTALS BE!"

[THE AMERICAN MEDICO-SURGICAL BULLETIN]

WHEN the Bard of Avon thus wrote he doubtless had in mind the average physician. The business depression, which has existed for so long that memory of man runneth not to the contrary, has hit the doctor probably to a greater extent than anyone else, not even excepting the lawyer. The cry in the medical land is, Hard times! Families have to be reared and rent must be met, and the butcher and the baker expect their pay for the sustenance bought of them, and the doctor groans as he looks at the wrong side of his ledger and wonders why Mr. Blank does not pay him for the babe brought into the world or for the appendix successfully excised.

Meantime the great charities of the country, the hospitals, are erecting new and costly edifices and ultraexpensive operating rooms, in order that the paupers, so-called, may be fitly housed, and, where the need exists, operated upon amid surroundings such as a monarch of the effete dynasties of the Old World would be glad to occupy as a dwelling. The doctor and the surgeon make their rounds in these palatial abodes, giving drugs here and wielding the knife there, spending hours of time and years of brain-work in alleviating the sufferings of the inmates. The superintendent of these hospitals is amply paid, the ward-tenders and the nurses, and even the lawyer, when it becomes necessary to employ one, and the doctor and the surgeon receive—*nothing* except experience! It is impossible to pay the butcher and the baker and the landlord on *nothing*, and year in and year out we find the medical profession catering to the desires of the incorporators of these too frequently misnamed "charitable" institutions—misnamed in that scarcely any discrimination is shown in regard to the sufferers admitted, for whom the enormous amount of money has been expended in buildings and in fittings, while the doctor, the man who after all should be paid the highest, gets nothing but experience!

Now, would not the times be less hard if the profession with united voice would insist on those who incorporate these palatial abodes realizing that they are as nothing compared with the man who endeavors to cure disease and to eradicate ills? Why should not the hospital surgeon receive his adequate reward, from a financial standpoint, from private incorporated hospitals, even as does the lawyer when employed, or the minor attendants who give their time and their skill within the walls? All this carries no implication of lack of charity. It is not the pauper who is going to pay, but the wealthy men and women who lend their names and give of their abundance toward the erection of these hospitals. To go a step further, should not the state remunerate the physicians who faithfully serve the real paupers? The principle which underlies the existing state of affairs is wrong from its foundation, and the time is opportune for physicians to mass together and insist on remuneration adequate to the mental anxiety, the skill, the time spent in attending even to the poor in institutions. Sweet charity is a term of glorious meaning, but it in no sense calls upon a body of men for the amount of sacrifice which medical men constantly make, without reward here, except possibly a little fame, whatever the future may hold out to them. The profession of medicine is indeed the noblest of all, but man cannot live and support a family on such record; and even as it is the duty of the state to care for its paupers, even so should it become the duty of the state to properly remunerate those without whom it could not care for them.

What fools these mortals be! In no profession aside from medicine is it the custom not to expect prompt payment for services rendered, and yet how many professional men infuse even an iota of business methods in the collection of their accounts? Because, forsooth, certain professional men, born with gold spoons in their mouths and therefore not obliged to give thought to the morrow, have set the custom of rendering quarterly, half-yearly, or even yearly accounts, the rest seem to follow like so many sheep, for fear of antagonizing patients. All this is wrong and inconsistent with those business methods which are at the bottom of successful breadmaking. Only the man with ample capital can afford to wait six months for payment of accounts. The average doctor is fortunate if he have enough in bank to tide him over one month, and therefore the need of prompt pay for prompt and efficient service. The man who owes the doctor a bill is the doctor's enemy until the bill has been paid. He is most likely to pay it promptly while the feeling of gratitude for service rendered is present to its fullest degree, and, furthermore, if the truth were known, the average layman is glad to know monthly what the exact amount of his indebtedness is. Again, were prompt payment made for prompt service, the chances are that both layman and doctor would be better off, in that it would not be necessary for the one to hesitate to send for his medical adviser early in the course of a disease, lest he should respond grudgingly, the bill being unpaid; and the latter would be the better off, in that his efforts at cure would not be so frequently nullified by the fact that he is called long after the disease has made progress beyond the reach of skill or drug. The medical man would suffer the less from want and anxiety during his lifetime, and he would less frequently leave his wife and children in want when his life is sacrificed, possibly through very devotion to some critical case, were he expected to send his statements in promptly, and were it evident that he insisted upon being paid the *first* instead of, as is the custom, *last* or *not at all.*

In other respects these mortals be fools, but mostly because they themselves help charity to be abused, and forget that charity of the ripest type begins at home. The infusion of business methods into the practice of medicine does not rob the profession of one jot or one tittle of nobility, but, on the contrary, adds to its common sense. There is ample room for both common sense and charity of the right sort in this world of the medical man; and when he ceases to make a fool of himself after the fashion dwelt upon, he will have more time for charity, particularly that kind which cares for the present and the future of those dependent upon him.

MEDICAL NEWS.

THE STATE MEDICAL MEETING.

THE thirty-first annual meeting of the Michigan State Medical Society convened in Mount Clemens on the 4th instant, first vicepresident Doctor Hugh McColl wielding the gavel in the absence of President Vaughan, who was called to render testimony in a New York court. In the evening the presidential address was read by fourth vicepresident Doctor F. G. Novy, the subject being "William Beaumont and His Work." The gathering was a pronounced success scientifically, numerically and socially, the program containing the titles of eighty papers and four addresses, the membership being augmented by about forty-five initiations, and the banquet innovation affording feast and facundity. A number of important papers read at the meeting will be published in future issues of The Physician and Surgeon. The following officers were elected for the ensuing year: President, Doctor Hugh McColl, of Lapeer; first vicepresident, Doctor Charles T. Southworth, of Monroe; second vicepresident, Doctor A. B. Chapin, of Mount Clemens; third vicepresident, Doctor Miss Della Pierce, of Kalamazoo; fourth vicepresident, Doctor Carl Bonning, of Detroit; secretary, Doctor Collins H. Johnston (reelected), of Grand Rapids; treasurer, Doctor W. G. Henry (reelected), of Saint Clair Springs; members of the judicial council (for three years), Doctor G. K. Johnson, of Grand Rapids; Doctor H. Kramer, of Holland; Doctor John F. Jenkins, of Tecumseh. Section in Medicine and Obstetries: Chairman, Doctor Charles W. Hitchcock, of Detroit; secretary, Doctor A. P. Biddle, of Detroit; orator, Doctor E. L. Shurly, of Detroit. Section in Surgery and Ophthalmology: Chairman, Doctor F. W. Robbins, of Detroit; secretary, Doctor A. E. Bulson, of Jackson; orator, Doctor W. F. Strangways, of Flint. Section in Gynecology and Abdominal Surgery: Chairman, Doctor W. T. Dodge, of Big Rapids; secretary, Doctor J. B. Whinery, of Grand Rapids; orator, Doctor J. H. Carstens, of Detroit. The next meeting will be held in Grand Rapids during the first week in June, 1897.

THE REGISTRATION OF CONSUMPTIVES.

The Baltimore city council has enacted an ordinance requesting physicians to report all cases of consumption to the board of health. The measure is not mandatory, however, but merely assumes the nature of a request, and although no restrictions are imposed upon physician or patient, the regulation will probably have a salutary effect. Following is the text: *Be it enacted and ordained by the Mayor and City Council of Baltimore:* That the Board of Health be and they are hereby directed to hereafter register the name, address, sex and age of every person suffering from pulmonary tuberculosis, so far as such information can be obtained, and that hereafter all physicians be requested to forward such information on cards ordinarily employed for the report of cases of contagious diseases, this information to be solely for the use of the Health Department; and in no case shall the Health Department assume any sanitary surveillance of such patients unless said patients reside in tenement houses, boarding houses or hotels, or unless the attending physician requests that an inspection of the premises be made; and in no case where the patient resides in a tenement house, boarding house or hotel, shall any inspection be made if the visiting physician requests that no visits be made by inspectors, and is willing himself to deliver circulars of information, or furnish such required information as is designed to prevent the communication of the disease to others.

THE MICHIGAN MEDICAL LEGISLATIVE LEAGUE.

This is the title of an organization recently effected in Detroit. Its purpose is the passage of a measure to regulate medical practice in Michigan, and branches for influencing legislation will be established throughout the state. The three schools of practice are represented in the movement. The following officers have been elected: President, Dr. E. L. Shurly (r.); corresponding secretary, Doctor E. S. Sherrill (r.); recording secretary, Doctor S. H. Knight (h.); treasurer, Doctor F. W. Robbins (r.); executive board, Doctors J. H. Carstens (r.); R. C. Olin (h.); D. A. MacLachlan (h.); J. H. Mulheron (r.); E. H. Covey, (e.). Ten vicepresidents will be appointed by the executive board.

THE PASSING OF A DARTMOUTH PROFESSOR.

Doctor Carlton Pennington Frost, LL. D., died of heart disease on May 24, at Hanover, New Hampshire. At the time of his demise he was dean of the Dartmouth Medical College and professor of the Science and Practice of Medicine. He was born at Sullivan in 1830, and received his literary and medical degrees at Dartmouth College: A. B. in 1852; A. M. in 1855, and M. D. in 1857. Two years later the degree of M. D. was obtained from the New York Medical College. He practiced in Johnsbury, Vermont, until 1862, when he entered the medical staff of the civil war, acting as surgeon of the board of enrollment until 1865. After the cessation of hostilities he settled in Brattleboro, Vermont, and engaged in medical practice until 1871, which year marks the advent of his connection with Dartmouth. He has been dean of the medical department for a quarter-century, and a member of the college board of trustees for fifteen years. The degree of LL. D. was conferred on him in 1890 by his alma mater. A wife and two sons survive the doctor, one of the latter being a physician and the other an astronomer, both of whom hold positions in Dartmouth College.

THE DISCOVERY OF THYROJODIN.

Baumann, a well-known chemist of Freiburg, has lately discovered that the active principle in thyroid treatment consists of an inorganic compound of iodine, a constituent of the thyroid gland. He has named this ingredient thyrojodin, and claims that its absence is responsible for certain diseases of the thyroid gland—goitre, myxedema, and cretinism. Thyrojodin is a stable compound, contains nine and three-tenths per cent. of iodine, and may be prepared by boiling the glands in ten per cent. sulphuric acid. This is purified by treating with alcohol and one per cent. of caustic soda, repeating precipitation with dilute sulphuric acid until a brown amorphous substance remains, the weight of which is from 0.2 to 0.5 per cent. of that of the fresh gland. When this substance is reduced to ash by caustic soda and nitrate of potash, the residue dissolved in water, nitric acid added and then shaken up with chloroform, the latter is colored violet, indicating the presence of iodine. Thyrojodin has been found in the human thyroid as well as in that of the pig and the sheep. This discovery would seem to afford an explanation of the empirical treatment of goitre by iodine.

THE MAILING OF MICROBES.

The postoffice authorities have rendered a decision permitting the transmission of disease germs through the mails providing the apparatus adopted by the New Jersey Board of Health be employed as a repository. It consists of two boxes and a bottle. The latter is very strong and has a capacity of three drachms. It is rendered water-tight by means of a rubber washer attachment to a metal screw cap. The microbes repose in this vial, which is now packed in borated cotton in a tin box four inches long and two inches in diameter. This box is inserted, top first, into a larger box lined with heavy felt. The boxes are equipped with metal screw caps and rubber washers, and the outer box is encased in paper felt one-quarter of an inch thick. The entire outfit weighs twelve ounces and requires twelve cents for mailing.

A NEW LOCAL ANESTHETIC.

Guaiacol is now employed to produce local anesthesia. Doctor Pize, of Montelinar, France, announces the discovery of this drug's efficiency for the purpose. Small doses injected under the skin render possible operations devoid of pain. The French Academy of Medicine recently appointed a committee to investigate the method, and it has unanimously congratulated the doctor upon his valuable achievement. The agent is especially applicable in surgical procedures on the eyelids. The solution recommended is composed of sterilized olive oil with ten per cent. of guaiacol, from three to twelve drops of which are injected into the lid in the region of the intended operation. Anesthesia is complete in from five to ten minutes, and continues for about twenty-five minutes. Slight massage will remove any tumefaction incident to the injection. The actual cautery may likewise be rendered painless by this medicament. A compress saturated with from ten to fifty drops of pure guaiacol is applied to the region to be cauterized and covered with oiled silk. Insensibility obtains in about ten minutes and lasts for several hours.

THE OPENING OF NOYES HALL.

The Oak Grove Sanitarium at Flint was, on Wednesday, June 10, the scene of a brilliant gathering. The amusement hall, provided for by a legacy of the late Doctor J. F. Noyes, of Detroit, was opened. The building provides for the amusement and recreation of the inmates of the sanitarium. Billiard rooms, music rooms, a gymnasium, Turkish baths and many other luxuries are supplied in this annex. A large number of the profession attended the opening, enjoying the hospitality of the superintendent and trustees. The Oak Grove Sanitarium will certainly, by these new additions, occupy a preeminent position among the institutions of the country. Few are its equals, and none its superiors.

THE PHENOMENA OF FATIGUE.

Foster, the physiologist, and 'Masse, of Turin, who have been experimenting upon animals for the purpose of determining the factor that produces the sense of fatigue, have concluded that the condition is attributable to poisoning of the cerebrum by products of retrograde metamorphosis; that the blood of a tired animal is poisoned, and when injected into another animal the normal buoyancy of the recipient is supplanted by the phenomena of fatigue. These experimenters declare that the toxicity of the blood may become so pronounced as to terminate fatally, and confirm the statement by citing instances of rabbits having been pursued until overtaken by death.

A NEW TEST FOR SUGAR.

The following is advanced as a reliable method of testing for the presence of sugar in urine: Dissolve two grains of salicylate of sodium, two grains of salicylate of copper, and eight grains of sodium-carbonate crystals in one hundred cubic centimeters of distilled water. Add an equal volume of the reagent to the urine to be tested and subject to heat until a precipitate is formed. A yellow deposit (suboxide) will diagnosticate the presence of glucose, while a grayish deposit (binoxide) will characterize the contrary.

THE MILITARY SURGEONS.

THE Association of Military Surgeons of the United States elected the following officers at its sixth annual meeting held in Philadelphia on May 12, 13, and 14: President, Albert L. Gihon, Medical Director of the United States navy; first vicepresident, Brigadier-General E. J. Foster, of Massachusetts; second vicepresident, Major John Van R. Hoff, of the United States army; secretary, Major Hermann Bergen, of Pennsylvania; treasurer, Captain James J. Erwin, of Ohio; editor, Major Charles C. Foster, of Massachusetts; executive committee, General John Cook, of New Hampshire, General Byers, of Wisconsin, Lieutenant-Colonel C. M. Woodward, of Michigan, Major P. F. Harvey, of the United States army, and Major Kuyk, of Virginia. The next gathering will occur at Columbus, Ohio.

THE NATIONAL ASSOCIATION OF RAILWAY SURGEONS.

THE ninth annual meeting of this body of specialists recently convened in Saint Louis. The event was the most successful in the history of the association the papers being particularly instructive, and the discussions unusually interesting. The executive committee was empowered to select either Saint Paul, Chicago or Toledo as the next meeting place, the choice of one of these cities having been rendered imperative by resolution. The following officers were elected for the ensuing year: President, Doctor Frank J. Lutz, of Saint Louis; secretary, Doctor Cassius D. Westcott, of Chicago; treasurer, Doctor E. R. Lewis, of Kansas City.

ANOTHER MEDICAL LIGHT EXTINGUISHED.

PROFESSOR GERMAIN SEE, the eminent French physician, died in Paris on the 12th ultimo, aged seventy-eight years. The doctor received his medical degree from the University of Paris in 1846. Six years later he was appointed physician to the hospitals, and subsequently succeeded Trousseau in the chair of Therapeutics at the Faculte de Medicine. In 1869 he was elected a member of the Academy of Medicine of Paris, and the year 1880 marked his appointment as Commander of the Legion of Honor. His devotion to original investigation is attested in voluminous writings.

MORTALITY IN MICHIGAN DURING THE YEAR 1894.

THIS information was gleaned from advance sheets of the "Twenty-eighth Annual Registration Report," edited by Doctor C. L. Wilbur, Department of State. The year 1894 was characterized by a remarkably low death-rate. The total number of deaths registered, including stillbirths, was only 20,959, corresponding to a rate of 9.3 per 1,000 population as enumerated by the state census of 1894. This is the lowest rate recorded since 1885, and is nearly 1 per 1,000 lower than the mean rate of the preceding five years.

* * *

The low death-rate of the year may be explained, in part, by the gradual cessation of the prevalence of epidemic influenza, which, beginning in 1890, has from that time to the present year annually caused a large number of deaths directly, besides undoubtedly increasing the proportion of mortality from acute respiratory diseases, diseases of the circulatory system, et cetera. Contrary to what might have been expected, consumption has not prevailed more extensively during the season of the influenza epidemic, according to the returns for Michigan, but has markedly decreased. It would seem that many deaths of consumptives, perhaps accelerated by the intercurrence of influenza, have been improperly reported from the latter cause of death, so that it is quite possible that the real influence of "la grippe" on the death-rate may have been somewhat exaggerated. The numbers of deaths registered from influenza for recent years are as follows: 1889, 176; 1890, 1,084 (the crest of the epidemic wave in this state); 1891, 1,076; 1892, 907; 1893, 555; 1894, 402. Prior to 1889 only a very few deaths, perhaps two or three on the average, were annually recorded. The great impression made on the popular mind, and the fact that the returns of causes of deaths in Michigan are not derived as a rule from physicians' certificates, but from the laity, and are recorded by supervisors quite ignorant, as a class, of proper methods of discrimination between the actual and the assigned causes of death, renders it probable that "la grippe" will continue to figure in the "Michigan Registration Reports" long after the cessation of the actual disease.

* * *

While the diminution in the number of deaths registered from influenza during 1894 is not in itself sufficient to account for the very low death-rate of the year, it is not improbable that the recent prevalence of this disease has, indirectly, largely caused such reduction. For several years an unusually high mortality has been recorded for the aged and for those past the middle period of life. The mortality of infants was rather high, especially at the onset of the epidemic, but the great brunt of its effect has undoubtedly been borne by those somewhat advanced in life. As a necessary consequence the average age of the population has been somewhat reduced, and the age-distribution after the passage of the epidemic is more favorable than at its arrival. Besides the general selective action with reference to ages of decedents, it has probably borne more heavily upon the weak, upon invalids, and upon those in defective physical condition, thus weeding out the elements of the population that afford the greatest mortality.

* * *

That the low death-rate of 1894 is probably a rebound from the high death-rates induced by epidemic influenza of the immediately preceding years, is indicated by the wide prevalence of low mortality rates. The International Vital Statistics included in the Report of the Registrar-General of England for 1894, show that the death-rates were the lowest in the history of registration in the United Kingdom, England and Wales, Scotland, Denmark, Germany, Prussia, Holland, Belgium and Italy. The data for Sweden, Austria, Hungary, ane France had not been received for the year, so that it is quite possible that one or more of these countries may also show minimum rates. The death-rate of Massachusetts was less than that for any previous year since 1886. Chicago, despite the presence of small-pox, had the lowest death-rate recorded since the beginning of registration in 1851. It is probable that other states and cities of this country would make an equally favorable showing, were exact statistics available, and that Michigan has thus merely shared in the general improved conditions affecting the United States, Europe, and probably the entire north temperate zone.

* * *

In part, however, the decreased death-rate in Michigan for the year 1894 has been due to a decline in the deaths from dangerous communicable diseases, and especially those acute infectious diseases comprised under that title that constitute the "zymotic" diseases of Doctor Farr's classification. Consumption shows a slight increase in deaths for the year, as did also other forms of tubercular disease. Diphtheria caused a smaller number of deaths, 642, than have been reported from this cause for any year since 1877. The same statement is true of diphtheria and croup taken together, the aggregate number of deaths in 1894 being only 822. The deaths from scarlet fever were only 163, the smallest number for any year in the history of registration in Michigan. Typhoid fever and measles were considerably lower than the average for recent years, and whooping-cough was less than in 1893 and about the same as in the years 1891–2. Only small-pox prevailed more extensively than usual of the acute infectious diseases, 85 deaths from this cause having been reported in the state.

MINOR INTELLIGENCE.

DENVER has two women health officers.

THE Doctors' Cycling Club is a Brooklyn innovation.

THE Cuban army has eighty surgeons in its medical department.

THERE are one thousand towns in Illinois without a resident physician.

THE British Medical Association will convene in Carlisle on July 28–31.

THE Canadian Medical Association will convene in Montreal on August 26, 27 and 28.

DURING the past twenty years 55,000 deaths have occurred from tuberculosis in Philadelphia.

THE annual meeting of the Colorado State Medical Society was held in Denver on June 16.

THE municipality of Paris is considering the question of sterilizing the water supply of that city.

DOCTOR HARRISON G. DYAR, of New York City, has invented a new machine for tubing bacterial media.

THE American Microscopical Society will meet in Pittsburgh, Pennsylvania, on August 18, 19, 20, and 21.

IPECACUANHA is recommended for bee sting. Applied in the form of a paste, it greatly obviates the pain and swelling.

THE leper colony at Indian Camp, Louisana, has thirty-one victims of this disease. Four Sisters of Charity from New Orleans, have resolved to dedicate their lives to the care of these unfortunates, and are in charge of the mission.

Doctor E. E. Montgomery, of Philadelphia, is the newly elected president of the Pennsylvania State Medical Society.

Doctor John S. Billings was recently made the recipient of an honorary degree conferred by the University of Pesth.

The Rhode Island State Board of Health has been granted an appropriation of $1,000 for the suppression of tuberculosis.

Brussels will have a 2,000,000-franc physiological laboratory, M. A. Ranier having bequeathed this amount for the purpose.

Mrs. Josiah Vose, of Boston, recently deceased, left a will bequeathing $380,000 to the charitable institutions of that city.

A woman in France who has used a lemon in lieu of a pessary for over twenty years, says it has given perfect satisfaction.

The cost of maintaining the medical staff of the British army is $1,000,000 per year. There are 614 members in the department.

California claims to have a physician who has been engaged in practice sixty-four years. He is now ninety-four years of age.

The Rush Monument.—The Rush monument has now acquired a site. It is in the Park facing the Museum of Hygiene in Washington.

The Illinois Humane Society has announced its intention to prosecute cyclers who carry infants or young children on their wheels.

The late Earl of Moray bequeathed $100,000 to the University of Edinburgh, as an endowment fund for the promotion of original research.

Excessive use of the bicycle has evolved a nervous affection which Sir Benjamin Ward Richardson has termed the "vibratory habit."

The British Association for the Advancement of Science will meet in Liverpool on September 16, under the presidency of Sir Joseph Lister.

The Flower Hospital, of New York City, has been granted $30,000 by that municipality. The institution is named for ex-Governor Flower.

Doctor Aronson has finally succeeded in inoculating a goat with tuberculosis. This animal has hitherto been considered immune to the disease.

The honorary degree of doctor of medicine has been conferred upon Professor William Konrad Roentgen by the Royal University of Wurzburg.

Doctor James P. Parker, of Saint Louis, is dead, aged forty-two years. He was editor and proprietor of *The Annals of Ophthalmology and Otology.*

A publication devoted to the business interests of the medical profession has been founded in Germany. It is called *The Berliner Aerzte-Correspondenz.*

An epidemic of measles and mumps has been prevalent in Costa Rica, over ten thousand children succumbing to these diseases during a period of three weeks.

The history of medicine and medical geography are the specialties to which an international journal, soon to appear in Holland, will be devoted. The English, French and German languages are to be represented in its pages.

A LAW has been enacted regulating the practice of medicine in the District of Columbia. It provides for government examinations by a board of medical supervisors.

MALARIA is practically extinguished in Rome. The city has a population of 467,000, and the death-rate from this disease has decreased from 650 in 1881 to 125 in 1895.

THE Women's Medical Club, of Chicago, has a membership ranging between twenty and thirty, and claims to be the initial organization of its kind in the United States.

THE British Association for the Advancement of Science will soon meet at Toronto, Ontario. The last meeting of this organization in Canada occurred at Montreal in 1884.

THE Medical Society of the District of Columbia has about three hundred active members, and includes a number of the most prominent medical men in the army and navy.

PROFESSOR BEHRING, who received the Albert Levi prize of 25,000 francs, has donated the amount for the nucleus of a fund to be expended in conducting serotherapeutic research.

THE Third International Congress of Psychology will convene in Munich on August 4, under the presidency of Professor Stumpf, of Berlin. Sessions will continue during four days.

THE American Medical College Association elected the following officers at its recent meeting: President, Doctor James M. Bodine, of Louisville; secretary, Doctor Bayard Holmes (reelected), of Chicago.

A DOUBLE current vaginal irrigator has been introduced by DOCTOR R. C. Kemp, of New York City. It is constructed of both hard rubber and glass, two inches and one-quarter in length, and one-half inch in diameter.

MESSRS. ROUX and BEHRING have been jointly awarded the Saint Paul prize of $5,000 for their discovery of diphtheria antitoxin. The French Academy of Medicine made the presentation on April 14.

THE danger surrounding the army surgeon is forcibly demonstrated by the report of the recent engagement at Abba Carina, Abyssinia, in which seventeen out of twenty were killed while rendering professional service.

DOCTOR H. J. GARRIGUES, of New York City, has invented a self-retaining vaginal speculum for operations in the dorsal posture. The power that holds the instrument in position is a mass of lead weighing two pounds.

THE Russian Government has presented 5,000 roubles ($2,500) to the Saint Petersburg Medical Academy with the understanding that the amount be expended in investigating and perfecting Professor Roentgen's discovery.

THE Wisconsin Electric Medical College has been declared irregular and measures have been instituted at Madison to annul its charter. It is charged with issuing diplomas to students who are only capable of answering about forty familiar questions, and with having no teachers, appliances or libraries.

THE Cleveland College of Physicians and Surgeons is the title assumed by the medical department of the University of Wooster which severed connection with the latter institution for the purpose of affiliating with the Ohio Wesleyan University.

IOWA has four thousand epileptics. Half of this number are confined in the county poorhouses, state asylums for the insane, and homes for the feeble-minded, but the remaining two thousand unfortunates are devoid of provision for their care.

IN a recent telegram to *The London Lancet*, Mr. Laurie, residency surgeon at Hyderabad, and an avowed disbeliever in the parasitic theory of malaria, announced that he had discovered Laveran's identical malarial organisms in ordinary pus cells.

DURING the past half-winter year, 3,674 students attended the Vienna School of Medicine, 2,211 being ordinary and 1,463 extraordinary matriculants. This institution employs 39 ordinary professors, 34 extraordinary professors, and 93 privat-docents and assistants.

DOCTOR JAMES R. CHADWICK, of Boston, is the newly elected president of the American Gynecological Society. The twenty-first annual meeting which recently convened in New York City was a marked success in point of attendance, papers, and social features.

A NOLLE PROSEQUI has been entered in the appeal proceedings of the Playfair damage suit, the doctor having decided to compromise with Mrs. Kitson. Judgment for $60,000 was obtained against the defendant, but a settlement has been effected by the payment of $50,000 and costs.

THE property bequeathed to the University of Michigan by the late Doctor Anna E. P. Marsh, of Greeley, Colorado, has been estimated at $2,900, but as it is somewhat encumbered the regents lately decided to ask the doctor's husband to make them a spot cash offer for the estate.

THE Woman's Medical Society has recently been organized in Cincinnati. It contains eighteen members, and is managed by the following officers: President, Doctor Amelia Prior; vicepresident, Doctor Koebuck; treasurer, Doctor Eliza Dickey; secretary, Doctor Jessie B. Dillon.

DOCTOR T. A. STODDARD, a graduate of the medical department of the University of Michigan, and a practitioner of Pueblo, Colorado, has instituted suit against that municipality for $30,000 damages. The doctor was thrown from his carriage in consequence of a hole in the street.

ANOTHER hospital has recently been established in New York City. It is located on East Twentieth street, has capacity for one hundred beds, is conducted by the Sisters of the Sacred Heart, has a staff of talented physicians and surgeons, and is known as the Columbus hospital.

A LEGAL enactment empowers the Pennsylvania State Board of Health to compel superintendents of all public, private, parochial, Sunday, or other schools to exact certificates of vaccination from pupils, and to exclude and report those who fail to comply. The clergy of the Quaker City are greatly disgruntled because of the application of this precautionary measure to Sunday schools.

ACUTE coryza is now pounded out of the system. A series of slight taps with a rubber hammer on the forehead just above the root of the nose constitutes the mode of attack. The possibility of a cure is founded on the theory that slight shocks upon terminal nerves produce contraction of the blood-vessels.

IT is announced that leprosy is amenable to serotherapy. Doctor Carrasquilla, of Bogota, South America, has reported fifteen cases treated by this method in which appreciable improvement was observed after the first injection, supplemented by early restoration of sensibility, appetite and cheerfulness.

THE American Association of Physicians which recently convened in Washington, District of Columbia, elected the following officers for the ensuing year: President, Doctor J. M. DaCosta; vicepresident, Doctor F. C. Shattuck; recorder, Doctor I. Minis Hays; treasurer, Doctor W. W. Johnson; councilor, Doctor I. E. Atkinson.

DOCTOR CHARLES W. STILES, for five years past zoologist of the Bureau of Animal Industry in the United States Department of Agriculture, has been elected corresponding member on medical zoology of the French Academy of Medicine. He is twenty-eight years of age, and a recognized authority in this special branch of science.

SULPHANILIC ACID is advanced as an efficient remedy for the treatment of iodism. The iodine of the potassium iodide in the organism is liberated by the nitrous acid which results from the decomposition of the alkaline nitrites under the influence of carbonic acid, but this decomposition is not effected in the presence of sulphanilic acid.

THE management of the Santa Fé railroad have recently become the recipients of the finest railway hospital in the world. It was established by the employes of this corporation that comfortable quarters might be afforded them while suffering from sickness or accidents. It cost $100,000, and was built from a fund raised by monthly assessments.

THE Montana State Board of Medical Examiners have elected the following officers for the ensuing year: President, Doctor W. C. Riddell, of Helena; secretary, Doctor W. M. Bullard, of Wickes; treasurer, Doctor C. K. Cole, of Helena; executive committee, Doctor T. J. Murray, of Butte; Doctor J. M. Sligh, of Granite; Doctor Henry Chappelle, of Billings.

BULLETS are not now thought to be rendered sterile by the heat evolved during transit. Doctor Suter, of Herkimer, New York, has been conducting a series of experiments for the purpose of determining the asepsis of these deadly missils, and finding that the virulency of the anthrax bacillus is not affected en route, infers that the heat is insufficient to destroy other germs.

COUNT MATTEI is dead. Some months ago this individual posed as a healer of cancer, and claimed ability to cure this malady by preparations of colored water which were consigned to bottles and termed electricities. When this hydrotherapic measure failed to afford relief the Count would have recourse to inert powders. A committee of English physicians were appointed to investigate the treatment, but owing to a quarrel among the members the report was incomplete. An account of Mattei's methods appeared in The Physician and Surgeon at the time.

Russian bacteriologists have lately demonstrated the disinfectant properties of coffee. Watery infusions of the roasted article destroy life in cholera and typhoid fever bacilli, the former in a few hours and the latter after a somewhat longer time. The germicidal power of the bean is limited, and the active principle is not a constituent of the natural product but develops during the process of roasting.

Doctor John A. Hawkins, of Pittsburgh, Pennsylvania, has devised a new urethroscope. It is higher than the older instruments; all parts of the mirror reflect the light directly down the tube; and the operator is afforded plenty of room to apply medicaments to the diseased mucosa. In conjunction with proper specula it may also be utilized in making examinations of the ear and other cavities.

Potassium nitrate is now recommended as a remedy for burns of any degree. It acts as a refrigerant. Excellent results have been obtained from its employment in the form of baths, saturated-solution compresses, and lotions. When the water becomes warm the pain may possibly return, but it quickly subsides on adding more potassium nitrate to the solution, and entirely ceases after two or three hours.

The Hillsdale County Medical Association was recently organized in Hillsdale, Michigan. There were eighteen charter members, and membership will be limited to physicians of that county. The officers for the ensuing year are: President, Doctor E. E. Fenton, of Reading; vicepresident, Doctor F. M. Gier, of Hillsdale; executive committee, Doctor E. E. Moore, Bion Whelan, and the president and secretary.

The number of microbes in milk was considered in a paper recently read before the Edinburgh Royal Society. During the winter months an average of 24,000 bacteria infest each cubic centimeter of the white fluid, while in late summer and autumn the number is increased to 173,000. The product of country dairies contains an average of 44,000 per cubic centimeter, which ratio is raised to 352,000 in milk from cows that are accorded the privilege of urban grazing.

It is proposed to organize a party of one hundred fashionable American physicians for a tour of the principal watering places and spas of Europe. The members will be selected from graduates of American universities irrespective of dogmatic persuasion, and, under the direction of Doctor Gowing Middleton, of Paris, will investigate the comparative value of the waters to patients suffering from certain diseases. The party will embark from New York City in July and return early in autumn.

At the sixteenth annual meeting of the Ontario Medical Association which recently convened in Windsor, the following officers were elected: President, Doctor John Coventry, of Windsor; first vicepresident, Doctor F. R. Eckles, of London; second vicepresident, Doctor C. K. Clark, of Kingston; third vicepresident, Doctor H. R. Machell, of Toronto; fourth vicepresident, Doctor J. P. Armour, of Saint Catharines; general secretary, Doctor J. N. E. Brown, of Toronto; assistant secretary, Doctor E. H. Stafford, of London; treasurer, Doctor G. H. Carveth, of Toronto. The next meeting will be held in Toronto.

THERE were 20,216 inmates in the New York Asylums for the Insane on October 1, 1895, according to the annual report of the State Commissioner in Lunacy. Over 9,000 of this number were confined in the institutions of New York and Kings counties, and 1,131 unfortunates had been consigned to all the asylums during that portion of the year completed to date of report.

IT has recently been demonstrated that the essential poison of rhus toxicodendron is an oil. It cannot, therefore, be removed from the surface by water, but free applications of alcohol will accomplish the purpose. The active principle causing the eruption has been thought to be a volatile substance known as toxicodendric acid, but Pfaff has discovered that the real active principle is a nonvolatile, readily oxidizing oil.

FRESH articular cartilages and synovial membranes from healthy animals are the bases of an extract prepared by Doctor Samuel Hyde, of Buxton, England, and employed by the doctor as a therapeutic agent in chronic joint diseases, including rheumatoid arthritis. The experiments have not been conducted sufficiently long to demonstrate the practicability of this method of treatment, but favorable results are anticipated.

AN antialcoholic serum is the latest acquisition to serotherapy, and now the Keeley cure is in danger of being supplanted by a discovery of French origin. Doctor Toulouse announces the preperation of a serum from the blood of dogs which have been subjected to large daily doses of ethylic alcohol, and cites a case of alcoholic delirium in which markedly beneficial effects followed the injection of twenty-four cubic centimeters thrice repeated.

DOCTOR AUSTIN FLINT, chairman of the Committee on Criminology of the New York Medical Association, has issued a circular to the profession urging that measures be instituted to effect the passage of a law providing for the employment of criminals in prisons. The letter sets forth that "idleness leads to discontent, criminal speculations and propensities, and finally, instead of correcting the prisoner, it makes him more confirmed in his hatred of organized society when he leaves the prison walls then when he entered."

THE capacity of spoons was the important subject recently considered at a society meeting. The leader of the discussion appeared upon the floor with a pocketful of these mediums of dosage which had been collected at random while making professional visits, and their capacity was demonstrated to vary from two-thirds to three times the standard quantity, while one held just five times more than any other in the assortment. The ridiculous practice in vogue among physicians of ordering "spoonful doses" was humorously treated in The Physician and Surgeon some years ago.

THE American Laryngological, Rhinological, and Otological Society elected the following officers at a recent meeting held at the New York Academy of Medicine: President, Doctor Frank Hyatt, of Baltimore; first vicepresident, Doctor Fred L. Jack, of Boston; second vicepresident, Doctor J. S. Maborn, of Pittsburgh; third vicepresident, Doctor James E. Logan, of Kansas City; fourth vicepresident, Doctor William Scheppegrell, of New Orleans; secretary and treasurer, Doctor Robert C. Myles, of New York. The vicepresidents will also act as chairmen of the sectional divisions of the organization.

Professor Doctor Don Francisco Bastillos, Calle de Tacuba Number 7, Diudad de Mexico D. F. Republaca Mexicana, has been elected treasurer of the Second PanAmerican Medical Congress to be held in the city of Mexico beginning the 16th of November. All members residing in the United States and Canada, and others who contemplate attending, should forward the registration fee $5.00, gold, to him at once, and notify Doctor C. A. L. Reed, Cincinnati.

Doctor J. Collins Warren, of Boston, was elected president of the American Surgical Association at its annual meeting recently held in the Detroit College of Medicine; Doctor Theodore A. McGraw, of Detroit, and Doctor John Ashhurst, junior, of Philadelphia, were distinguished by elevation to the vicepresidencies; and Doctor L. McLean Tiffany, of Baltimore, was made a member of the council. The next gathering will be held at Washington City, in May, 1897.

A NEW method of producing vigorous catharsis in patients suffering from mania or other mental disease, wherein an effort at oral administration would doubtless mark the inception of a struggle, is to blow a large dose of calomel into the nostril through a tube or roll of paper. The procedure is neither painful nor disagreeable, and the drug is distributed over the nasal mucous membrane, eventually finding lodgment in the intestinal tract, and operating as effectually as if given by the mouth.

A CASE of poisoning by boric acid has been recorded. The unfortunate was a boy who had been seriously burned and treated with boric acid ointment. An erythematous eruption appeared on the fifth day, the limbs, trunk and face being the regions attacked. The rash became more profuse each day until the ninth, when the patient died. The necropsy revealed no other cause of death. Prior to the development of the eruption the case was progressing satisfactorily, but subsequently there were nocturnal manifestations of delirium.

THE oxygenating properties of plants have recently been subjected to investigation in a London conservatory. Midday chemical examinations conducted in a greenhouse that had contained six thousand plants for twelve hours, demonstrated that in ten thousand parts of air only one and forty one-hundredths parts of carbon dioxide were present, whereas the normal proportion of the purest air is about four parts in ten thousand. An analysis of the same air made before sunrise showed that the carbon dioxide had gained on the oxygen in the proportion of about four parts in nineteen thousand.

RECENT PUBLICATIONS.

REVIEWS.

A HANDBOOK OF THE BIOCHEMICAL LABORATORY.*

THIS work gives concise directions for preparing the substances that enter into the composition of the animal body. More than two hundred tests are alphabetically arranged, which will make the work one of value to the laboratory student.

*By John A. Mandell, Professor of Chemistry at the New York College of Veterinary Surgeons. First edition. New York: J. Wiley & Sons.

THE FUNCTIONAL EXAMINATION OF THE EYE.*

THIS book consists of a number of lectures delivered at the New York Polyclinic. The functional examination of the eye, especially as regards astigmatism, is very plainly and clearly commented upon, and the book will be of use to those seeking to familiarize themselves with the subject.

*By J. Herbert Claiborne, M. D., Adjunct Professor of Ophthalmology in the New York Polyclinic. Twenty-one illustrations. Price, $1.00. Philadelphia: The Edwards & Docker Company.

ABBOTT'S BACTERIOLOGY.*

STUDENTS of bacteriology will greet with satisfaction a new edition of the excellent and standard manual. The work is a complete authority and teacher of the subject of which it treats, and the student who shall have mastered its contents will have acquired a desirable familiarity with the microbic causes of disease.

*A Practical Manual for Students and Physicians. By A. C. Abbott, M. D., First Assistant in the Laboratory of Hygiene, University of Pennsylvania, Philadelphia. Third edition, enlarged and thoroughly revised. 12mo, 492 pages, with 98 illustrations, of which 17 are colored. Cloth, $2.50. Philadelphia: Lea Brothers & Company, Publishers.

DIETS FOR INFANTS AND CHILDREN.*

THE utility and convenience of diet-lists has been demonstrated by the continued favor with which they are received by the profession. **DOCTOR STARR** has compiled and arranged an excellent book for the pocket, whereby the physician can easily and readily prescribe the proper nourishment from infancy to childhood. The blanks are arranged so that they can be torn out, and left with the custodians of the patient. The necessity of strict supervision of the infant's diet being especially called for in hot weather, this little book is especially commended to the practicing physician.

*By Louis Starr, M. D., Editor of the "American Textbook of the Diseases of Children." Price, $1.25. Philadelphia: W. B. Saunders.

REFERENCES.

A LIST OF PREPARATIONS.

SOME idea will be gained of the vastness of a great pharmaceutical laboratory when we inform our readers that the price list for 1896, which we have just received from Parke, Davis & Company, embraces some twenty-nine distinct and complete lines of preparations, comprising over six thousand articles. The business of this great house having increased almost by leaps and bounds, they have recently opened two new branches—one in New Orleans and another in Baltimore. The list before us is a compendium of useful information, general, medical, pharmaceutical, and botanical; it is handsomely printed, and is conveniently arranged for reference. Every practitioner should write for one. All who are familiar with the dignified, scientific methods of this firm, its uniform courtesy to seekers after information, the scrupulous purity of its preparations, and its magnificent laboratory in which an unsurpassed discipline prevails, will not waste any wonder over a success which has become well-nigh proverbial among physicians and pharmacists.

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ORIGINAL CONTRIBUTIONS.

MEMOIRS.

SOME CONSIDERATIONS IN THE OPERATIVE TREATMENT OF INGUINAL HERNIA.*

By ERNEST T. TAPPEY, M. D., Detroit, Michigan.
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[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

THE various methods of treating inguinal hernia by operation have all for their object the effectual disposition of the sac and the closure, as far as possible, of the two abdominal rings and the inguinal canal. The operations that have been devised in the past fifteen or twenty years are much more thorough in their detail than those in vogue before that time. Those of **Bassini** and **Halstead** are perhaps the most popular at present. These two operations are very much the same. They both commence by splitting open the inguinal canal, separating and amputating the sac, after having first made sure that there is no intestine nor omentum adherent within it. **Bassini** then separates the cord and lifts it out of the inguinal canal; then sews the aponeurosis of the internal oblique and the conjoined tendon of this muscle and the transversalis to the deeper portions of Poupart's ligament, commencing the sutures at the os pubis and carrying them up to the internal ring so as to compress the cord slightly; the cord is then laid external to the internal oblique and the external oblique aponeurosis united over it, and then the skin is united. **Halstead**'s operation differs from this in the first place by still further interfering with the spermatic cord. All the superfluous veins are dissected and, after ligation, removed, so as to lessen its size and consequently the size of the abdominal openings; and in the second place it differs by the transposition of the cord external to the external oblique aponeurosis, so that it is covered only by connective tissue and skin. In the **Halstead** operation the external abdominal ring is closed entirely as is also the inguinal canal, and there is a direct opening made from the peritoneal cavity to the connective tissue layer.

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*Read before the Michigan State Medical Society, at Mount Clemens.

The advantage of these operations is in closing the inguinal canal and theoretically, as far as this feature of the operation is concerned, the **Bassini** operation should have the preference, for the **Halstead** operation leaves a direct opening from the peritoneal cavity to the connective tissue layer which is loose and yielding. The **Bassini** operation on the other hand closes the dense structure of the external oblique aponeurosis over the internal ring as it was originally and passes the cord through it just above Poupart's ligament and at the same time has closed up the original inguinal canal. The removal of the spermatic veins, as done in the **Halstead** operation, is of practical value only in those cases in which they are varicose, thus making the cord very large and at the same time of a consistence which is compressible and which will allow the more easy descent of a hernial sac.

The **McEwen** operation has always been a very satisfactory one in my experience, but it certainly is not as thorough as the two just mentioned. Its characteristic feature is the preservation of the sac. This is done by passing a suture backward and forward through the sac from its distal extremity to its base or neck; this suture is then passed through the internal ring and then through the abdominal wall except the skin and out into the wound. It is then pulled so as to pucker up the sac and draw it up into the internal ring, thus making a plug which ought to offer considerable hindrance to the return of hernia after the adhesions have formed.

I do not propose to weary you by mentioning more of the various operations which have been devised. They are legion and of course with only slight differences for the most part. I confine myself to my own experience and to those methods which I believe are looked upon with the most favor by the profession.

As to the technique, the incision is made further up in doing the more modern operations. It should extend from a point a little external to and above the internal ring to the os pubis so that the opening will be well exposed. The inguinal canal is split open for its whole extent, the sac is separated and ligated at its neck and amputated. The cord is then dissected out of its bed and held up by a loop of iodoform gauze while the first row of sutures are being placed. These commence at the os pubis and unite the conjoined tendon of the transversalis and internal oblique and the aponeurosis of the latter muscle to the deep edge of Poupart's ligament, carrying the sutures far enough to cause a slight constriction of the cord as it is brought through the internal oblique. The cord is then laid down external to the internal oblique aponeurosis and the aponeurosis of the external oblique is sutured over it, the cord descending into the scrotum between it anteriorly and Poupart's ligament posteriorly, thus forming a new external abdominal ring, the conjoined tendon and Poupart's ligament being sewed together behind it. In doing the **McEwen** operation it is necessary only to expose the external ring, for the sac is pulled up by the puckering suture into the internal ring through the inguinal canal and only the external ring sutured.

All suture materials have been used in closing the wound—silver, silk, silkworm-gut, catgut and kangaroo tendon; these materials have all been used as buried sutures. **Bassini** himself uses silk, buried, and has good results. Since the introduction of kangaroo tendon I have used it largely. I cannot say I have been entirely satisfied with the results, for I have had several wounds suppurate.

It is true in each instance only superficially and the ultimate result of the operation has been successful, but it is very desirable to have primary intention throughout. I have been equally unfortunate with the tendon as prepared under DOCTOR MARCY's directions and with that prepared by myself. My experience has forced me to feel that this is not the perfect suture we were promised when it was first introduced. I do not know just why it should be more difficult to render aseptic than catgut—unless it be that it is more dense and consequently requires longer time to absorb antiseptic fluids, but it does seem to me that it is so. Then there is one more thing I want to say about this material. I have seen it published that kangaroo tendon lasts ninety days in the living tissues. Now, the only opportunity I have had to observe it has been in these suppurating wounds I have mentioned, and the tendon has been absorbed or so softened that it was entirely worthless as a suture at the end of ten days or two weeks. I have had perfect union by first intention after using kangaroo tendon but I have had several suppurating wounds in spite of great care both in the preparation and use of the tendon and also in the preparation of the patient and hands of operator and instruments. I have seen herniotomy wounds act in the same way in the practice of other surgeons—heal by primary intention at first and open up afterward—so that I am disposed to believe that these wounds are especially prone to act in this way, and that it is not always the fault of the suture material alone. I am of the opinion that what is done at the operation tends to produce suppuration. There is a great deal of tearing and bruising of delicate cellular tissue in the separation of the sac and of the cord. I should do the dissection by the scissors if it were not for the abundant hemorrhage and the difficulty of cutting such lax tissue. I think, however, I shall try silk or silver wire which can be boiled with my instruments.

This operation is very apt to be followed by considerable edema of the scrotum and inflammation of the testicle, due to the irritation of the tearing process just mentioned. These subside considerably, however, in the course of a week, so that the patient is not uncomfortable from them after that time, but the enlargement of the testicle disappears gradually and it is a month or more before it is again of normal size. This irritation to the testicle is less the farther away we can keep from it during the operation. If the sac is a short one and easily separated and we are not required to go deep into the scrotum, there is not apt to be any enlargement of the testicle; but in old hernias which descend deep into the scrotum and whose sacs are firmly adherent along the whole course of the cord and about the testicle itself, we are apt to have considerable orchitis follow.

The operation is essentially the same in women as in men—the round ligament passing through the abdominal rings and inguinal canal in place of the spermatic cord. Some operators seem to think of the round ligament as a very insignificant organ and do not hesitate to remove it entirely and close both rings. It seems to me, however, that the ligament has an important function and that it should not be sacrificed unless there are special reasons for doing so.

As to the status of this operation in surgery, the mortality has been so far reduced that it is now almost nothing. GREIFFENHAGEN, in *The Saint Petersburg Med. Woch.* of December 28, 1895, gives the following statistics: Number of operations reported without a death by McEWEN, 82; KOCHER, 220; BASSINI, 239; BOCA, 250. Percentage of relapse: SCHEDE, 10; KOCHER, 8.6; KUSTER, 6; WOLFLER, 5; BASSINI, 3; MCEWEN, 0.6.

KOCHER, by his latest method, 0, or one hundred per cent. of permanent cures. Length of time of observation not given.

COLEY, of New York, has performed two hundred herniotomies with only one death and that was due to a pneumonia supposed to have been caused by ether, and of these cases there were only three relapses in two years.

This is a fine showing and may be better than many can produce, but the statistics generally are so good that I do not hesitate to advise an operation simply to relieve the patient of the necessity of wearing a truss. This suggests another point to my mind. Some surgeons favor the use of a truss after the operation. This I never do. I do not find it necessary, and feel that by its use the patient would be deprived of one of the important advantages of the operation.

QUESTIONS CONCERNING THE ETIOLOGY AND PREVENTION OF PULMONARY CONSUMPTION.*

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[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

QUESTIONS relating to the causes and prevention of pulmonary phthisis will, of course, be interesting to all workers in the field of medical science as long as so much remains to be learned and accomplished. The discovery and manipulation of the tubercle bacillus has certainly inaugurated a new era in the study and elucidation of the several maladies grouped as tuberculosis, and would contribute a further impetus in this direction if it were not for the prevailing delusion possessed by many that observations upon this microbe, and of its behavior, comprise the whole of the pathogenesis of each member of the group of maladies called phthisis pulmonalis. It is an unfortunate habit indeed that we have fallen into of settling all etiology upon microbic phenomena alone—thus practically excluding many other factors concerned in the origin and maintenance of disease.

Unless the profession becomes more conservative in this respect I fear that the great achievements reached by the development of bacteriology and sanitary science will become denuded of much practical value; for there are many honest and erudite persons pushing the microbian tenets with a radicalism verging on the borders of sophistry or even ridicule. This is especially true regarding some of the measures proposed, and sometimes enforced, in respect to pulmonary tuberculosis so-called. Take, for instance, the theory of the spreading of tuberculosis from the dead. Now, who has ever traced the origin of a case of this disease to exposure to a body dead of tuberculosis of the lungs, peritoneum or joints? What facts have we to support the idea that cases of this disease originate from such exposure? Going still farther on these particular lines we meet with honest, educated men who believe that the disease may be communicated from the hands, hair, clothing, table utensils, et cetera, of individuals. If such an idea were carried into practical execution what pictures society at large might exhibit: doctors and others going about without hair—either on head or face, and without clothing—save aseptic raiment;

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* Read before the MICHIGAN STATE MEDICAL SOCIETY, at Mount Clemens.

people having to carry about their own sterilized cups, saucers, glasses, knives and forks, and other personal appurtenances. Think of having to wash one's hands in a bichloride solution before shaking hands with a friend, or having to furnish your front hall with a basin full of such solution for sterilizing the lips of your daughter's fiance when he comes to make his evening visit; or worst of all, think upon the direful check to the growth of the church when the communicants or even members of the congregation shall be obliged not only to avoid proximity to every one who coughs, but to disinfect themselves and their Sunday finery before participating in the exercises. A sanitary vestibule in every church! It will certainly drive people from the church to the street and saloon. Yet there are a few in our profession who are actually crying aloud for such or similar so-called sanitary reforms. It is obvious that the promulgation of such radical sanitation may create a revulsion which will throw us back to the dark ages of sanitary practice. It seems to me that this danger is not altogether chimerical in the light of present tendencies; but may be avoided by securing for members of boards of health general practitioners entirely, or in large proportion, instead of laymen. Besides the agency of the tubercle bacillus in the progress or dissemination of pulmonary phthisis (a subject so widely discussed as to need mention only here) I would allude to contagion, heredity, habits, habitat, occupation, social conditions, climate, and the acute pulmonary diseases.

The question of contagion already alluded to devolves largely upon the nature of the tubercle bacillus for its standing according to modern thought. I am sorry that we have not the time to discuss this point *in extenso;* but suffice it to say that while there is apparently some evidence of the infrequent occurrence of this event, it is not common, and until proper statistical testimony is gathered, it will be impossible to know just what proportion of cases originate in this way solely; according to my own experience, I believe there are very few.

Heredity, as you all know, is a prominent etiological factor, and no amount of theoretical dogmatism, nor speculative reasoning can do away with the time-honored fact that tuberculosis is largely dependent upon heredity predisposition for its development. Habits, occupation and social conditions we also know play important parts in the genesis of all acute and chronic pulmonary disorders, so that I need not weary you with platitudes on this branch of the subject. Habitat and climate are perhaps coequal with heredity, in exciting the advent of phthisis pulmonalis. The prevalence of this disease in localities stamped with changeable climate is so notorious as to be deemed a fact, and especially in connection with bad hygienic environment; yet, perhaps we do not give the subject the reflection which it deserves or the conclusions arrived at would differ more materially from those which have come to be the fashion.

Squalor, filth, poor food (especially nitrogenous) and all other circumstances which appear to us as absolute and dangerous of life deficiencies, are borne by the many natives of warm, salubrious climates while enjoying comparative immunity from phthisis pulmonalis. Now, if to the bacillus tuberculosis alone is due the source and activity of the disease, why does the microbe stop its damaging enterprise to such an extent in salubrious climates? and it has still the pabulum for growth and extension; it is anerobic. Again, why do so many suffering from chronic or subacute pulmonary disease recover under favorable climatic conditions alone? The aggregation of facts in this particular is too overwhelming to justify any other conclusion than that low, damp locations possessing changeableness of weather, are the natural habitats of pulmonary phthisis. The next important etiological factors, and inexorably incidental to insalubrious climates, are the prevalence of acute and subacute pulmonary diseases. La grippe is one of the most fruitful sources, then influenza, acute bronchitis, broncho- and croupous pneumonia and pleurisy. The many cases of pulmonary phthisis which arise from the outset of these diseases are astonishing, as I think every practitioner will admit, and especially is this true of influenza, broncho-pneumonia and pleurisy.

With regard to the latter disease, I cannot agree with some observers that all cases of pleurisy, or nearly all are of tubercular origin or nature. On the contrary—as I pointed out in a paper read before this body in 1888—I think the majority of cases of acute pleurisy are either of a rheumatic nature, or the result of injury, yet I do believe that even these may become cases of tuberculosis if not assiduously looked after, that is, if effusions are allowed to remain too long. Again, cases of injury or shock to the thorax, whether a rib is broken or not, when effusion takes place, may become thus transformed into a phthisis pulmonalis or a veritable tuberculosis. This may happen even without the transitory stage known as emphysema having taken place to a marked extent The absence of microbes in so many cases would lead to the view that in these several forms of pleurisies the bacterial participation is of secondary importance.

I have now three cases of delayed absorption of mixed effusion under treatment in which no tubercle bacilli can be found in the sputum, in one of which a drainage tube has been inserted, and no tubercle bacilli have been found in the discharge. All of these are nevertheless to be considered cases of phthisis pulmonalis. Also another case which I saw in consultation with Doctor Hickey, which ran the ordinary course of an acute pleuritis with serous effusion with no tubercle bacilli in the sputum, and which has developed into phthisis pulmonalis. Even cases showing diseased ribs, the effects of injury, may often become phthisis if proper surgical measures are not adopted in time, although not always. I therefore believe that climatic conditions with the several acute pulmonary affections attendant contribute more largely in the early production of phthisis pulmonalis than anything else.

32 Adams Avenue, West.

A CLINICAL CONTRIBUTION TO OUR KNOWLEDGE OF CERTAIN TUMORS WHICH ORIGINATE FROM LARGE NERVE TRUNKS.*

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[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

Recognizing both from personal experience and from a necessarily cursory review of the literature, that cases similar to those whose histories I shall refer to are not common, it has seemed to me worth while to present them for your consideration, as they illustrate several points of pathological and clinical interest. It must be clearly understood that I am only referring to growths springing from nerves in their continuity. It must also be understood that I am considering neoplasms which spring from the fibrous and connective tissues of the nerve trunks, because I am unaware of any recorded cases where tumors of any magnitude have been reported in which the bulk of the tumor was composed of newly-formed nerve fibres.

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*Read before the Michigan State Medical Society, at Mount Clemens.

From this follows two important facts, namely, that the tumors I am speaking of belong to the connective-tissue class of neoplasms, and that as they start from tissues surrounding and not constituting the functioning elements of nerves, that these tumors may, and often do develop in such a manner as will separate the structures without destroying the functional continuity of the nerve itself. Moreover, it must be patent that if there is neither marked disturbance of the sensory nor motor functions of the nerve it should be an operative possibility, in many instances, to remove these growths without section of the nerve, howsoever thoroughly incorporated in the growth it may appear. Although resection and suture of large nerves is usually successful, the procedure is not always harmless, and I am satisfied both from the pathological necessity as to their development, and from my clinical experience, that it is very often possible to remove large tumors originating from nerves with but little or no loss of function resulting.

Although rapidity of growth and the nature of the parent tissue suggests the probability that a given growth *may* be sarcomatous, and that therefore free excision is indicated, my cases, with many others on record, conclusively demonstrate the fallacy of this argument, and it must never be forgotten that myxomata and fibromata as well as sarcomata originate from connective tissue. Chinically, when, as I have said, little or no disturbance of nerve conductivity has resulted from the neoplasm, the patient should usually be given the benefit of the doubt and the growth be removed without section of the nerve.

I will now give abstracts of the history of two cases:

Ida H., aged eighteen years; single; was admitted to the University Hospital, Ann Arbor, February 6, 1893, for relief from a tumor situated upon the inner side of the right arm just below the axilla. About seven months previously her arm had been caught between a falling window sash and the sill. From her account a localized hematoma evidently formed immediately which was imperceptibly replaced, as it were, by the tumor, which must have been of very rapid formation at the outset, because when the effects of the contusion had passed away a growth was clearly perceptible; this continued growing until her admission, when it was doubled in bulk and about the size of an egg. No disability had been noticeable until within the previous two weeks, since which time she insisted that she could hardly use her arm, yet there was no real paresis or paresthesia. Examination showed that the tumor was evidently connected with some nerve trunk as it was located in the course of the arm nerves, and was freely movable laterally but not longitudinally. It was not tender, nor did pressure produce any evidence of nerve implication, except that there was an obscure sensation as of a cord-like structure passing obliquely across the tumor which could be moved laterally but not longitudinally; hence this was believed to be a nerve overlying the tumor, pressure upon which might account for the alleged disability.

The diagnosis was that of some variety of connective tissue growth.

Upon operation and subsequent examination the growth proved to be a fibrolipoma, springing from the sheath of the internal cutaneous nerve which it completely encircled necessitating splitting of the mass and careful dissection of the nerve for at least two inches. The cord-like structure felt before operation proved to be the median nerve overlying part of the mass. At first it seemed impossible to remove the tumor without exsecting a portion of the internal cutaneous nerve, but a small expenditure of time and trouble resulted in success.

Prompt union occurred with complete relief of all the previous alleged disability, no paresthesia existing in the area supplied by the internal cutaneous nerve. While it is perfectly true that division of this nerve would not have entailed consequences of any importance, yet upon principle I never destroy that which can be saved, and I was desirous of ascertaining whether nerve function could be preserved in similarly unpromising cases implicating more important nerve trunks.

The second case which I propose citing presented the history so frequent for sarcomata—of a tumor developing in a youth and continuously and rapidly increasing in bulk, yet nothing but a benign growth existed, not even cystic change being detectable, which so often accounts for rapid enlargement of innocent tumors.

W. L., aged eighteen years; a farmer; entered the University Hospital on June 18, 1893, and was discharged cured July 11. About two years before coming under my care, he had first noticed a mass in the right popliteal space of the size of a walnut, which was not painful unless struck. Within the past year he has noticed occasionally radiating pains reaching the toes when pressure was made over the growth. The tumor has grown quite rapidly for the last year, is now about three inches long by two in its transverse diameter, and is movable laterally but not longitudinally; there is no evidence of paresis or paresthesia. The operation revealed a fibroma springing from and somewhat underlying the popliteal nerve, some of whose elements were spread out so as to partly envelop the tumor. Careful dissection enabled me to enucleate the neoplasm without inflicting any permanent injury upon the nerve. For a time the patient complained of an occasional sense of numbness in his toes, but it was so vague that we failed to determine whether any real anesthesia was present, being inclined to think that not the slightest existed.

Here, again, is a case of a rapidly growing tumor, in a youth, without cystic change to account for quick growth, yet innocent, and while seriously involving the nerve so as at first sight to render it improbable that its removal could be effected without permanently damaging the nerve function it admitted of ablation without real injury to the nerve elements.

While I am well aware that each case of nerve tumor must be a rule for itself, I cannot but believe that if less stress were laid upon rapidity of growth in the young as indicative of malignancy, and in the case of tumors springing from nerves a determined effort were made to remove such without section of the nerve, reserving this measure as a last operative resort, if insuperable obstacles were encountered, or if during operation unquestioned evidences of malignancy are discovered, that many cases could be treated as I did mine.

In conclusion, I wish to reiterate that in cases of tumors springing from large nerves, when there is no evidence of distinct damage to nerve conductivity, that an infiltrating, that is, malignant neoplasm is to say the least improbable, and that many tumors which resemble sarcomata of nerves, so far as their history goes, can be safely treated without exsection of the implicated segment of nerve.

THE TREATMENT OF PUERPERAL SEPTICEMIA.*

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THE fundamental idea in the treatment of puerperal septicemia is that it is essentially a surgical disease; that the condition which is dangerous to life and which calls for professional interference is a poisoning of the blood and nerve centers by products of microbic infection introduced from without.

There are various local manifestations of this infection, differential diagnosis of which is of great importance as indicating the line of treatment to be followed. Unfortunately this diagnosis is often a matter of difficulty.

The original lesion caused by the infection is in the great majority of cases primarily an endometritis. The process may not extend beyond this, or it may, by continuity of tissue involve the tubes and pass over from these to the peritoneum, causing puerperal peritonitis. On the other hand, the tubes may remain healthy, but there may be a general infection of the entire uterine tissue; the muscular fibres and intermuscular lymph spaces being involved, and this results ultimately in destruction of the peritoneal covering and secondary septic peritonitis. The lymphatics of the broad ligaments and their outlying glands also often participate in the process, and grave or even fatal systemic poisoning is the final result.

Again, there may be septic endometritis with thrombosis of the veins of the broad ligaments, which may ultimately become infected, causing intense pyemia and death.

While it is true that puerperal septicemia is essentially a surgical disease, there is one physiological fact that must not be lost sight of, namely, that there is always in the blood an antitoxic element or power, enabling the system to successfully combat moderate amounts of poison. The two evident indications, therefore, in the treatment of this condition, are—

(1) To remove or limit as thoroughly as possible the source from which the toxic elements are supplied to the blood; and

(2) To aid nature in her efforts to overcome the poison already in the system. In other words, to increase or strengthen the antitoxic constituent of the blood.

It is to meet the first indication that surgery must be invoked, and it must be employed in whatever degree may be necessary to fulfill this indication, whether it be merely the thorough washing out of the uterine cavity or whether it involve the removal of the uterus and tubes, with infected glands and lymphatics. More lives are lost through incomplete and ineffectual effort than through too great zeal. But the difficulty which all find in these cases lies in determining what should be done and when.

This difficulty will always exist, but will be rendered less by thorough study of those conditions caused by infection, and of the combined thought and experience of other operators. By such study we may ultimately hope to arrive at a degree of accuracy in diagnosis that will enable us to successfully adapt our efforts to the conditions existing.

I have said that almost invariably the primary manifestation of a puerperal infection is septic endometritis, which gives rise to toxines that are absorbed and cause constitutional disturbances. The first indication, therefore, after the diagnosis of sepsis has been made, is surgical treatment of the uterine cavity. Some writers advise simply a thorough intradouching. This I can sanction only in those cases where the operator is not accustomed to the use of the curette. In such cases it is advisable, after washing the uterus out thoroughly, to carefully and firmly wipe the cavity with iodoform gauze wrapped about uterine dressing forceps, thus removing loosened particles and cleansing the surface.

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*Read before the MICHIGAN STATE MEDICAL SOCIETY, at Mount Clemens.

The proper procedure is the careful, yet thorough and firm use of the douche-curette (dull) to all parts of the endometrium, washing away the debris with an antiseptic solution, followed by sterilized water. The choice of the antiseptic may be important. Corrosive sublimate has been condemned because of the danger of absorption, and because it coagulates the albumen of the submucous tissue and in this way limits drainage.

For these reasons creolin, or some similar safe antiseptic, is advised. After the thorough use of the curette and douche the uterine cavity should be filled with iodoform gauze lightly packed, and so arranged as to secure the most perfect drainage. The gauze may be removed in twenty-four or forty-eight hours, and replaced either with or without douching. Many times, one thorough procedure of this kind will permanently check the septic process. If not, if the temperature again rises, showing further absorption of septic products, the question arises, Shall we again curette? Many operators advise against it, saying that it will consume valuable time, but I believe in the further thorough and careful use of the curette, with the douche and gauze packing, supplementing this procedure with constitutional medication.

At all times there must be repeated and careful examination of the appendages, the broad ligaments and the abdominal cavity, to detect, as early as possible, any extension of the pathological processes beyond the cavity of the uterus.

When the treatment above described fails to influence the septic manifestations, but on the contrary the rapid pulse and high evening temperature, with or without marked chills, show conclusively that the system is being constantly poisoned by fresh and continuous absorption of toxic elements, the question as to hysterectomy presents itself. The surgical indication to remove the source of the poisoning still exists and becomes imperative, unless the experience of the operator leads him to believe that the antitoxic power of the system can ultimately overcome the toxines and establish convalescence. To decide this question oftentimes requires great nicety of judgment combined with the wisdom drawn from wide reading and experience.

If the evidences of grave constitutional infection persist, and if the uterine cavity has been thoroughly and properly treated, hysterectomy should be done. Nothing short of this will be effectual. It is not enough to open the abdominal cavity, and, finding purulent peritonitis, be content with flushing and draining.

The septic peritonitis is secondary. The infection came either through the tubes or through the body of the uterus, and in either case, that surgery is incomplete that does not remove both tubes and uterus.

There are other conditions for which hysterectomy has been urged. Lusk said, in a paper read at Philadelphia, January 16, 1896: "One point which has impressed me concerns hysterectomy in the cases of pyemia due to infected thrombi. Is not hysterectomy really indicated in such cases? The attack is ushered in by a violent chill followed by a high fever. Perhaps for thirty-six hours the patient seems to be perfectly well, but another chill follows. With care life may be prolonged, but the chills recur and as the multiple abscesses result from the distribution of emboli a typhoid condition follows and death ensues. Now, after the second chill has occurred, and there is no longer doubt of the diagnosis, is it not desirable to perform hysterectomy and thus to prevent the spread of the pyemic processes? It is in this line that I feel great hopes for the future."

DOCTOR BALDY, in commenting on this, says: "Why wait for a second chill if a reasonably positive diagnosis can be made earlier?"

DOCTOR ALBERT SIPPEL* advises hysterectomy in similar cases, where there is purulent phlebitis, due to infected thrombi, causing pyemia. He says the thrombi form the culture medium from which from time to time toxines are poured into the blood. Also that "This form of puerperal disease leads, with very rare exceptions, to death. In such a case where the chills continue to recur, and where the patient gradually fails, I would attempt to save life by removing the uterus."

He advises in such cases not only to remove the entire uterus, but to follow up and resect the affected veins as far as possible. It seems to me that SIPPEL has given the correct indications for operation in these cases, namely, not till, by the constant recurrence of the chills and the sure evidence of failure of strength and vitality in the patient, it is evident that life is in danger.

It would seem that LUSK and BALDY, in urging such early operation, had the fear that by metastases the chance for benefit by operation would be lost, but SIPPEL says: "It is not the metastases that make the chills and cause the principal danger, but the purulent thrombi at the original seat of infection."

On the other hand HIRST (in discussing DOCTOR BALDY's paper) stated that venous thrombosis is not an indication for hysterectomy, he having had twenty-five cases with only one death.

In one sense he is correct, thrombosis of the uterine veins is of itself not an indication for such a serious operation. We have all seen cases of phlegmasia occurring after childbirth, where there was at no time apparent serious danger to life. Yet, if these thrombi do become infected, and a purulent phlebitis be set up, prompt surgical intervention is demanded.

Again, we are deterred from operating, oftentimes, by the serious and apparently hopeless condition of the patient. The patient is apparently "in extremis," and without surgical help will surely die. The chances of surviving the operation even, are slight. It is a serious question whether we are ever, even in such cases, justified in refusing the patient the slight chance that only surgery can give. I believe it is our duty to lay aside all personal considerations and operate. But whether we should operate at once, without effort to improve the patient's condition, is a question that is not yet settled in my own mind. It depends somewhat on what the serious condition is due to. Whether the rapid, even irregular breathing, the rapid, almost imperceptible pulse, the disturbed mental condition, et cetera, are due to exhaustion or the action of the poison on the nerve centers. We all believe it to be the latter. Then the

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Centralblatt fur Gynecologie, Number XXVIII, 1894.

question arises, What effect does the poison have on these centers of respiration and circulation? Is it a form of "shock" or is it pure paralysis? I believe it to be an excessive irritation of those centers. Especially do I believe this to be true in septic purulent peritonitis, where death comes sure and swift with all the signs of collapse. If this be the case, is it not possible that by large doses of nitroglycerine and codeine, and especially by intravenous injection of large quantities of hot saline solution, supplemented by frequent rectal injections of the same, we may bring the patient from an apparently extreme condition to one allowing rapid surgical help? This is a purely theoretical suggestion, but one I believe to be worthy of consideration. Until recently it has been said, with too much truth, that medicine furnished no remedy that was of value in the treatment of septicemia, but I believe this can no longer be said.

The recently discovered "serum therapy" has furnished us remedial agents powerful in combatting various toxic conditions. In the antistreptococcus serum we have a remedy which has been used, with apparently the best results, in various forms of poisoning from streptococci. It has been used with benefit in erysipelas, scarlet fever, and some cases of puerperal infection. It seems to be antidotal to this form of poisoning. Unfortunately puerperal infection is not always amenable to this remedy because due to other poisons or combinations of poisons.

But we have in nuclein another remedy which I believe to be very potent in all varieties of puerperal infection because its remedial effect is due, not to any special antidotal action, but to strengthening and increasing the normal antitoxic elements in the blood. Several months ago I advised its use in a case of puerperal sepsis which seemed to be hopeless. It brought temporary relief only, I now believe, because the doses were too small, and the seat of infection, the purulent uterus, was not removed. Since then I have used it with benefit in various septic conditions.

DOCTOR HOFBAUER, of Vienna, has recently written on "The Use of an Artificial Leucocytosis in the Treatment of Septic Puerperal Processes,"* in which he narrates several cases treated by nuclein. He gives, as theoretical reasons for its use:

(1) The promptness of its influence on leucocytosis.

(2) The absence of unpleasant complications or effects; and

(3) The fact that, by its internal administration, under the influence of the pancreatic secretions, nucleinic acid is set free, as demonstrated by finding it in the chyme, from which it passes into the blood.

He also gives as among its most marked effects—

(1) The rapid favorable influence on the general condition of the patient—from a state of apathy to one of bright, quick mentality. The icteric color of the skin passed away and the appetite improved.

(2) The local effects were equally good. Puerperal "ulcers" rapidly took on a healthy appearance and healed. The discharges from the septic uterus rapidly lost their odor and purulent character and lessened in quantity.

(3) The influence on the temperature was marked. Often after the first dose there was an increase of temperature to be followed by gradual decrease. The remissions were longer and more pronounced and the exacerbations slighter, till restoration to the normal occurred.

*_Centralblatt fur Gynecologie_, Number XVII, 1896.

The small experience that I have had in the use of nuclein in septic conditions confirms in every respect these statements, except that I have not dared rely on its internal administration but have always given it hypodermically.

We have then, in antistreptococcus serum, and in nuclein, two powerful agents that we may call upon to aid us in our combat with puerperal septicemia. With their aid surgery may wrest desperate cases from death, where without them it would fail. On the other hand, without the aid of proper surgical procedures to remove the source from which the poison is supplied to the blood, no therapeutic agent, nor combination of agents could succeed in those severe cases that we too often see.

EVERYDAY MISTAKES IN OBSTETRICAL PRACTICE AND THEIR RESULTS.*

By L. J. LENNOX, M. D., DETROIT, MICHIGAN.

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In the way of explanation I would like to say that the object of my paper is particularly to draw the attention of the members of this society to an existing evil of which we are all cognizant, and not an attempt to specifically enumerate or describe the mistakes in obstetrical practice. By a brief general comparison between the correct method and the existing practice of too many so-called accoucheurs this fact may be profitably impressed upon our minds.

There is nothing in the title of my paper suggestive of anything interesting or new. Everyday mistakes in obstetrical practice and their results, especially the latter, are only too well known to every practitioner, and especially to gynecologists, who find so many poor suffering women upon whom it is absolutely necessary to resort to surgical or other means in order to give them relief, and partially, if not wholly, restore health.

Granting that a small percentage of causes of pathological conditions subsequent to childbirth is congenital or unavoidable, so far as the care and attendance is concerned, I think that we will all admit that the percentage of women who have borne children and are obliged to place themselves in the hands of the gynecologists for subsequent repair (if I may use such a term) is very unnecessarily large. This being true, it is our duty to see if this condition of things can be remedied, and as DOCTOR H. W. LONGYEAR, of Detroit, said in a paper recently written by him on "Mechanics and Surgical Treatment of Backward and Downward Displacements of the Uterus," "prophylaxis, the highest art of our calling," should be our first aim. It is our duty, therefore, to do all in our power to impress the laity, as well as the profession, with the great importance of proper and skilled treatment of the parturient woman. Granting that ovaries, tubes, and even uteri are sometimes unnecessarily sacrificed, there are hundreds and thousands of women going through life, invalids, or find premature graves because they are placed in the hands of the gynecologist too late, or not at all.

I will first briefly outline what the duties of the accoucheur are, as we understand them from our own experience, and from the writings of eminent authorities on the subject.

First, every pregnant woman should be in consultation with her physician, whom she should engage, at least, as soon as she is certain of her pregnancy, and act under his or her instructions.

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* Read before the MICHIGAN STATE MEDICAL SOCIETY, at Mount Clemens.

The urine should be examined at intervals of two weeks, whether there is edema or not, and whether there are symptoms of uremia or not, until time of delivery.

Examination per vagina should be made *only* when conditions or circumstances indicate that there may be some abnormality, that strict asepsis should be followed out, which means not introducing into the vagina any septic germs. To prevent this I place carefully in the vaginal opening, a plug of sterilized or medicated absorbent cotton, or iodoform gauze, then cut away the hair surrounding the genitals, and follow these precautions with a thorough cleansing with soap and brush, and lastly, a bichloride solution of one in two thousand, all the surrounding parts, including the labia and vulva, thighs, buttocks, and of course the anus and perineum. This done, I next see that the patient is lying on a thoroughly clean bed and none but sterilized cloths or pads allowed for her use.

Having omitted none of the above details and the hands made thoroughly aseptic, you have done all you can for the prevention of introducing germs of infection into the vagina or uterus of your patient. Of course your hands should be made aseptic before each examination and these should be as few as possible. I also use as a lubricant, soap dipped in warm water instead of vaseline, lard or sweet oil.

The forceps should be used (with chloroform) not as a last resort, when nature has proved unequal to the task, the patient's strength given out, and her nervous system suffered a severe shock, but when by their use we can save the mother and child from prolonged suffering and waste of strength, which should be preserved with the greatest care possible. With regard to the use of forceps, I should like to say that while I advocate the early and frequent use of them, I do not wish to be understood as encouraging their use indiscriminately or simply to save time, but there should be a *reason* for their use, and in addition to the reasons given by our recent American authorities who have included inertia of the uterus, I would add, prolonged and extraordinarily severe uterine contractions, out of proportion to the advancement being made (here the use of chloroform is especially demanded). I would also like to emphasize the importance of great care in the application of the forceps which should always be sterilized before using. I believe a great many practitioners are unnecessarily hasty and consequently rough in the application of them, and make traction before the forceps are properly locked instead of removing them again and again, if necessary, until they can apply them where they will lock easily. I have learned from experience that when I fail to lock my forceps after two or three attempts, that to introduce my whole hand into the vagina and thus outline and perhaps change the exact position of the presenting part, is of great assistance in applying the forceps.

This has reference especially to the application of the forceps when the head is passing through the superior strait. I will also refer in this connection to what has been my experience with regard to laceration of the perineum in forceps delivery.

I have never had but a few cases of laceration of the perineum when delivering the head with forceps. By being very careful and not hurrying that part of the operation, making traction forward, instead of back against the perineum, after the head has entered the pubic arch, there is not a single case of laceration that would not occur if the forceps were not used. But, I *have* observed that nearly all the lacerations I have had, have been made by the shoulders after the head was delivered and the forceps removed.

For the last five years, I have never delivered the head with forceps that I did not immediately examine the perineum after removal of the forceps and before the shoulders were delivered, so as to know positively that the shoulders and not the head caused the laceration. Immediately after the delivery of the child and the complete removal of every part of the placental tissue, the vagina, perineum and rectum should be closely inspected. If any lacerations exist, they should be immediately repaired, and to do so, the physician should never be unprepared.

Next, I see that all soiled clothing, on or under the patient, is exchanged for dry and clean clothes. An aseptic pad and bandage, applied and fastened by perineal straps for the purpose of holding the bandage in position, and also to keep the pad of sterilized absorbing cotton or some aseptic dressing in place, over the vulva and perineum.

The physician should impress upon his patient the importance of returning to him for examination as soon after involution of the uterus has been completed as possible, say six weeks or two or three months. If any laceration of the cervix is found, it should be repaired within three to six months after delivery.

We hear comments daily from the laity as well as a large number of the members of the profession about the wholesale operations being performed daily by the gynecological surgeon.

If we will carefully compare the results which would follow the proper care (such as I have briefly outlined) of the parturient woman, with what we know to be the practice of today, not only at the hands of filthy and ignorant midwives, but by a large percentage of practitioners, some of whom do so through ignorance and some through willful indifference, we would not only realize that thousands of women go through life with lacerated cervix, vagina and perineum, many of them torn and useless sphincters of the rectum, to add to their other miseries, a vast number who, after two or three years of suffering, put themselves in the hands of the skilled gynecologist, who alone can relieve their misery, and benefit greatly if not cure them of their many ailments, almost all directly or indirectly caused by unskilled or careless treatment when they pass through the most important epoch in their whole lives, namely, childbirth, but we would be aroused to the fact that we, too, are guilty if we do not use every means possible to bring about a grand reformation in the practice of obstetrics.

THE GEHRUNG AS AN EXPEDIENT.*

By HARRIET A. GERRY, M. D., Detroit, Michigan.

[Published in The Physician and Surgeon exclusively]

In this short and entirely practical paper there are no original theories set forth. If anyone should, by chance, discover any originality it will be in some *new* application of an *old* principle. I ought not to say old but ancient for, with this progressive generation, the things of last year are old and those of fifteen years ago, ancient, hoary with age and should be honored with Cicero's description.

*Read before the Detroit Medical and Library Association.

In *The American Journal of Obstetrics* for July, 1880, DOCTOR E. C. GEHRUNG published his best known article on the device which bears his name. When he hit upon a form of pessary which does not derive its support from any external attachment such as a belt or cord, does not demand for a foundation a fairly firm perineum, and does not support itself by distending the vaginal walls, he made a valuable discovery which has been a boon to one small but greatly suffering class hitherto unrelieved by any other mechanical appliance. I refer to cases of cystocele and procidentia in patients not fit subjects for operation.

That the GEHRUNG is not mentioned in all the text-books on gynecology, and is not very frequently called for at the instrument dealers, is my apology for supposing that some are unfamiliar with its shape and uses. Approximately, it consists of two parallel half-circles joined at the ends. The upper half-circle is slightly larger than the lower. When this support is in position the middle points on the half-circles point forward toward the symphysis pubis and the ends backward. The open space is, therefore, in front of the rectum, consequently, however large the pessary there can be no occlusion of that canal by pressure. The ends rest upon the rami ischii, from which the instrument as a whole receives its main support. Herein lies the chief characteristic of this appliance.

That GEHRUNG'S device has not been more generally accepted by the profession is possibly due to the fact that it appears to be difficult to fit and place. This is not so if one goes about it in an easy way, and has as much manual dexterity as any physician ought to have.

In the original description by DOCTOR GEHRUNG, which is the one quoted in at least two works on gynecology, the patient is placed in the dorsal position for the adjustment. The principal difficulties will be removed if the patient is put in the SIMS' position with the hips slightly elevated. The uterus is then easily replaced at or even above the normal line and the size of the cystocele will be considerably lessened. Temporarily putting a part of these redundant tissues out of the way greatly facilitates the adjustment of the appliance.

Although the GEHRUNG anteversion pessary has its widest field of usefulness in cases of cystocele and procidentia it was intended by its originator for still another purpose. To my mind, and my clinical experience bears me out in saying it, anteversion unattended by other abnormal conditions is seldom unphysiological enough to be pathological. Consequently I have never had occasion to employ the GEHRUNG for this form of displacement.

A cystocele that cannot be cured by an extensive perineal operation will seldom be cured at all, for some of the most experienced operators have declared that, of the simple plastic procedures in gynecology, those for cystocele are the most unsatisfactory in their final results.

DOCTOR MUNDE, in his "Report of the Gynecological Service of Mount Sinai Hospital, 1883–1895," expresses a similar opinion, and then says: "I have been more successful in treating cystocele—I do not say curing it but in relieving the symptoms and keeping the anterior vaginal wall in position—by means of a mechanical support than by operative measures. The mechanical support which I employ is that devised by DOCTOR EUGENE C. GEHRUNG, which answers the purpose better than any other contrivance of the kind which I have seen."

Out of a number of advanced cases of cystocele and procidentia coming under my observation I have selected the histories of the following with the comments upon them as best illustrating the subject in hand:

Case I.—Mrs. C., aged sixty-nine years. Mother of thirteen children. Menopause at about forty-five. General health excellent till a few years previous to the first consultation. She came under my observation first in September, 1888. About four years before this time she had first noticed a protuberance from the vagina which, on account of its increasing size, she thought was a tumor. Her growing discomfort alarmed her and induced her to seek medical advice. On examination the supposed tumor was at once seen to be a cystocele so large that, when the patient was standing, a mass the size of a large goose egg protruded outside of the body. This condition was accompanied by almost constant uneasiness in the bladder with frequent desire for micturition and, at times, incontinence of urine. There was partial procidentia but only a small rectocele.

To regard only the lesion was naturally to recommend an operation for its cure, but to regard the patient's physical condition was to seek for a substitute which would make her comfortable. A patient who has nearly attained to the allotted three score years and ten, whose physical powers are failing, and who is not suffering from a malady fatal without operation should not be subjected to surgical procedure if comfort can be otherwise obtained. Here was a case to which this idea was applicable and I decided that a Gehrung anteversion pessary would meet the demand for comfort.

After a few days' treatment necessary to restore the congested and eroded mucous membranes to a normal condition, I fitted her with a number sixty, which relieved her of all pelvic discomfort and enabled her to walk about more actively than she had done in several years. She usually returned for examination every three or four months. The last time I saw her she had then been wearing a pessary of the same pattern for nearly five years and was in fair health, active, considering her age, and free from pelvic symptoms.

As I was not her family physician I did not see her in her final illness which was rather short and occurred about two months later.

Case II.—Mrs. R., aged sixty-two years. Mother of several children. Has been quite fat for some years but always in robust health. About a year previous to the first consultation the uterus had descended so far as to give her considerable discomfort. About six months later a large cystocele developed and the cervix uteri began to protrude externally. At this time the patient was suffering so much from the congestion and erosion of the cervix and anterior vaginal wall, and from the dragging upon the adjacent organs that she sought medical advice. As long as she was under her physician's care she felt very well, but after a month or two without treatment by mild astringents, tampons, et cetera, she relapsed as a matter of course into her former condition. Several mechanical supports were tried without success.

Thanks to the excellent care of her physician who kindly referred her to me, she was in good condition when I first saw her. Although her physical vigor would have permitted any of the surgical procedures for cystocele and procidentia, an operation was, for other reasons, out of the question. I therefore fitted her with a Gehrung anteversion pessary as the best substitute for a radical operation. On account of the shortness of the posterior vaginal wall there was some difficulty in getting a shape and size which would be retained, support the cystocele, and yet not strain the narrow portion of the canal. After two trials I succeeded, and when the patient was last heard from, through her physician, she was still wearing the support with comfort and benefit.

CASE III.—Mrs. S., widow, aged seventy-two years. Multipara, thin and rather feeble. Occasional incontinence of urine and frequent discomfort in the pelvis after exertion of any sort. About four months previous to the time I saw her first she consulted a physician who analyzed the urine with negative results, and decided that the vesical irritation and other symptoms were caused by a marked prolapse of the anterior vaginal wall which persisted in spite of her age and the consequent contraction of the upper posterior portion of the canal.

Her physician very kindly asked me to see her and determine whether a permanent support for the cystocele could be adjusted. Owing to the narrowness of the outlet and the asymmetric contraction of the canal I had difficulty in fitting her properly, but by slightly changing the curve of the pessary I was able to fit her quite accurately with a number forty GEHRUNG. This relieved her symptoms.

Out of several cases of partial or complete procidentia I have chosen the histories of only two. As they are of a most aggravated type they will best illustrate the subject.

CASE IV.—Mrs. V., aged sixty-one years. Eleven children, the youngest twenty. Menopause at fifty-eight. Always in excellent health till eleven years before I first saw her. At that time she began to suffer from procidentia which soon passed from the partial to the complete form. She had continuous pain in the lower abdomen when on her feet, and at times great discomfort in the bladder. The appearance of a foul discharge frightened her and led her to seek medical assistance fearing she had cancer.

An examination showed that the procidentia was of such a degree that the entire uterus was outside of the body. The vaginal canal was literally turned inside out dragging with it a portion of the bladder. In fact the distortion and displacement of the latter, together with a probable partial occlusion at the neck by flexion, caused difficult micturition; so that the patient was always obliged to replace the uterus and often to get upon her hands and knees in order to urinate. An eroded, suppurating surface about three inches in diameter was the source of the foul and irritating discharge. The strain for years upon the vaginal walls had so stretched the canal that at the first treatment I was obliged to place, crosswise, four large cylindrical tampons four inches in length by two in diameter in order to secure the uterus against prolapse when the patient should attempt to walk about. Except during parturition I have never observed so great distention of the vaginal canal as in this case. After about twelve days' treatment the eroded surface was sufficiently healed to permit the placing of a permanent support. I first adjusted a number seventy GEHRUNG—the largest size I had—which was scarcely large enough, although it was retained. I therefore procured a number eighty and, separating the ends more widely, made it into a shape which fitted her properly and gave her adequate support. She returns every four to six months for medical attention.

She has worn a pessary of the same pattern now nearly three years and is relieved of all distressing symptoms although she is on her feet a great deal and leads as active a life as her advanced years will permit.

CASE V.—Mrs. F., aged forty-five years. Multipara. Menses regular. General health good. Two years before I saw her first she began to suffer from partial procidentia which soon became complete. She had almost constant discomfort in the back and lower abdomen. Occasionally there was incontinence of urine.

An examination showed that she was remarkably free from pelvic disorders excepting the procidentia and those directly connected with it. Here was a patient in good general condition and at an age when almost any surgical procedure is well borne, therefore I advised an operation. But that was out of the question for some months, at least, and in the meantime she must be made comfortable. Therefore I fitted her with a GEHRUNG number sixty which supports the uterus and anterior vaginal wall, thereby giving her perfect relief from her former distressing symptoms. When a pessary can do that it is accomplishing a great deal, especially in a case like this where the woman is doing her own washing and scrubbing. Three months ago, but since the above was written, I operated on this patient for cure of the procidentia. A few days ago she reported herself to be perfectly well.

Thanks to progressive gynecology, and particularly to modern obstetrics, procidentia is becoming more and more rare. In another fifty years there will probably be many physicians who have never seen a case. But there must always be a few patients whose general condition is such that neither they nor their physicians can afford to take even the slight risk of an anesthetic or a simple operation, and yet they must be made comfortable. For several years to come we shall be called upon to ameliorate the discomforts of those who are sufferers from some of the obstetrical methods of thirty or forty years ago. It is in these cases that the physician can hope to obtain very satisfactory results from the use of the GEHRUNG.

223 PARK STREET.

USE AND ABUSE OF ARSENIC IN DERMATOLOGICAL AFFECTIONS.*

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A NUMBER of years ago I read a paper before this society, in which I took the ground that arsenic was too freely used in the treatment of cutaneous diseases. A larger experience from a practice devoted exclusively to the treatment of dermatological affections convinces me more fully of the truths of the statements made in that paper. I do not think that I prescribe arsenic now in one-quarter of the cases that I thought demanded it at the time of that writing. In getting the previous history of patients that have been referred to me for treatment I usually find that arsenic has been used, and I conclude from this that the remedy is still very freely used by the general practitioner in the treatment of skin diseases; in fact so extensive has been its use by the physician that the laity are familiar with it in these affections, and " Fowler's " is a domestic remedy. So firmly is this idea established that patent medicine manufacturers advertise their preparations as containing arsenic in order to create a demand for the same.

*Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

Were I to name over the diseases of the skin in which this remedy has been used by the medical profession the list would cover the whole domain of dermatology, not even excepting scabies and pediculosis. It would seem that a drug so universally employed in the treatment of cutaneous affections by both the profession and the laity would have some foundation upon which to base its therapeutical value, but I have failed to find anything of the kind.

In cases of rapid poisoning by arsenic, there is inflammation of the gastro-intestinal tract with nervous symptoms, either of great prostration or of exceeding irritability. Where the poisoning has been slower the alimentary canal does not show evidences of inflammation, but there is some gastric catarrh, with edema and emaciation, and with the nervous symptoms of pain, numbness, and paralysis of the extremities. The manifestations upon the skin due to the ingestion of the drug are pruritus, desquamation—which also affects the hairs and nails, diaphoresis, urticarial and herpetic lesions, pigmentation, warty growths upon the palms and soles. The same symptoms occur if the poisoning results from the local application of the drug. Arsenic is eliminated from the system by the kidneys and sweat glands.

Analyzing the symptoms resulting from the administration of this drug we find that it acts first as an irritant to the gastro-intestinal tract, and second that it impresses the nervous system either centrally or peripherally, probably also as an irritant. Third, we find that the skin lesions occurring during the use of arsenic are those which are found in diseases of the skin whose etiology has a decided nervous element. Fourth, the lesions caused by its use are manifested upon the superficial portions of the skin, especially the epidermis.

There is very little in the above summary upon which to base a theory for the selection of proper cases for treatment by the use of arsenic. Looking at its administration empirically, we find that the best results have been obtained in cases that were distinctly nervous in their causation, or when the anatomical lesions affected principally the epidermal structures. Experience has also shown that not all cases affecting these structures are benefited, but it is only in those that are in a chronic or subacute stage that the remedy is of any value. The acute inflammatory affections of the tissues are made worse by its use.

If I am correct in the statements made, the domain for the successful employment of the remedy under consideration, in the treatment of cutaneous affections is a very limited one indeed. I doubt if any member present can cite me to any study of the therapy of the drug, by a competent observer, in any considerable number of cases of the same skin disease treated exclusively by arsenic, and by such means only can a correct therapy be formulated. I think that your own experience, as well as that of others in reported cases in the current medical literature of the day, will bear me out in the statement that even when the drug has been given in supposed proper cases that disappointment has as often followed its use as benefit.

Why is arsenic so freely given? I must confess that I am unable to answer this question, for surely every doctor is familiar with the pathology of skin diseases, and must know that while many of them attack the epidermal structures they may be the results of pathological conditions of the kidneys, stomach, bowels or liver, and best treated by other drugs than the one we are considering. It may be that in some cases its use is the result of careless prescribing, or it may form one ingredient in a shotgun formula.

The iconoclastic manner in which I have been treating the subject might lead you to suppose that I did not regard arsenic of any value in the treatment of skin diseases, but I assure you that such is not the case. I regard it a very valuable remedy, in properly selected cases, after the use of other known remedies for the same pathological condition of the skin. Take psoriasis, for instance—if arsenic has been of any value in any disease of the skin surely this is the disease; still, in this, if there was marked pruritus or burning sensations in the lesions, arsenic is not the remedy. Again, if the lesions are acute in character, arsenic is not the remedy; or if the disease occurs in a plethoric, full-blooded high liver, arsenic is not the remedy. Other medicines and treatments are to be used first; they failing, and the chronic stage reached, as shown by the dull color, the slow growth and persistence of the patches lacking subjective symptoms, arsenic now will be of the greatest value. In cases of dry, scaling eczema with little pruritus, the patches slow of evolution, the remedy will often give brilliant results. The nervous dyspepsias which accompany skin affections are often relieved by arsenic, the dermal affection disappearing as a result.

In this last class of cases the remedy is said to act as a tonic—nerve tonic. I believe there is a very different explanation for its action upon the affected epidermis. A moment ago we stated that the drug was eliminated through the sweat apparatus. The coil gland and its duct are, as you know, distinct and different anatomical structures, and having different functions. The gland proper is probably a fat excretor while the duct collects the sweat from the structure that it traverses. From the capillaries in the vascular papillæ of the skin a current of serum passes to the overlying epidermis. In this structure are lymph spaces through which the serum passes, furnishing nourishment, and then returning to the vascular system in the depressions between the papillæ. These lymph canals are connected with the sweat-gland duct by slit-like openings between the cells that form the wall of the duct. By these routes, substances in solution in the blood may pass through the epidermis and into the sweat duct without traversing the sweat gland, and I believe that it is in this way that the arsenic is eliminated through the sweat apparatus. In a healthy skin arsenic passing through the epidermis would act as an irritant to the delicate terminal filaments of the nerves causing a neuritis. Zoster is a neuritis and it sometimes follows the use of arsenic, the drug acting as a direct irritant in these cases.

In the pathological conditions that call for the use of arsenic we have a plastic exudate thrown out that obstructs the lymph spaces in the epidermis, the blood current below the epidermis has been slowed, the terminal nerve filaments are buried in morbid products, and there is necrosis and exfoliation of epidermis, as a result of the lack of nutritive material. If in these cases arsenic be given it finds its way to these tissues, acting first upon the dividing line between the epidermis and the derma, softening the epithelia and opening the lymph spaces in its passage to the sweat duct; the action here is one of direct irritation. The walls of the capillaries have also been irritated causing an increase in the rapidity of the blood current, and hastening the absorption of the morbid products. In cases of skin disease where, instead of a plastic exudate we have a serous one as shown in the formation of blebs, this remedy is also of great value. I believe that it acts in these cases also by direct irritation of the nerve filaments which are more easily reached by the arsenic in solution in the bleb contents as it passes through to the sweat ducts.

The diseases in which the above symptoms prevail, and in which arsenic has been used with benefit, are: pemphigus, herpes zoster, lichen ruber, lichen planus, psoriasis, chronic urticaria, dermatitis herpetiformis, and some forms of erythema multiforma; yet, even in these cases, in those well skilled in its use, it often fails to improve the condition. Two of the untoward effects of the use of arsenic are very well shown in some photographs that I now hand you. The case was one of psoriasis, for which arsenic in small dose had been given for some time, when without any apparent cause the whole body became pigmented. Previous to this the palms and soles became the seat of small, warty growths, which completely covered their surfaces and requiring frequent paring in order to make walking possible, or to enable the patient to follow his occupation of a carpenter.

The abuse of the remedy consists, first, in its administration indiscriminately, in giving it for acne, or for eczema, or for scabies, et cetera. Another abuse consists in the lack of care in the selection of the preparation to be used. The aqueous solutions of pure arsenious acid are the most convenient to give, and if freshly prepared are the best for use, but these solutions deteriorate with age, losing some of the arsenic, and no case should be held as not yielding to arsenic until the arsenious acid has been given. Another abuse is in not continuing the administration of the drug for a protracted length of time. Good results are slow in following its use, and as we have had recourse to the drug after other medication has failed, we should be content to wait even months for a cure, and in order to prevent relapses it should be continued for a considerable length of time after all evidences of the disease have disappeared.

In conclusion we find that arsenic is useful only in a very limited number of skin diseases. Second, that its use in apparently selected cases is often disappointing. Third, that it must be given for a long time before we decide that no good is to result from its use. Fourth, we should be careful in the selection of the preparation to be used, and a verdict should not be rendered against the drug unless arsenious acid has been used. Fifth, that its use in cases that are liable to return must be continued for some months after apparent cure is obtained; and lastly, it must be borne in mind that when it is given in properly selected cases it may be followed by untoward effects that are not amenable to treatment.

44 JOHN R. STREET.

INJURIES TO THE EYE.*

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It may be said that the treatment of no other class of cases demands the exercise of more good judgment than does that of injuries to the eye. Yet the practitioner is liable to be presented with such at any moment. Great is the responsibility. Only too easy is it to make mistakes.

By dealing too heroically with a badly injured eye, the patient may be deprived of an optic, which, with gentle treatment, would eventually have given him useful vision. On the other hand, an eye which apparently has received only a slight injury, may stealthily, and with no pronounced warning to the unsuspecting observer, cause in the unimpaired organ that "snake in the grass" affection—sympathetic ophthalmia, ending in leaving the patient blind for life.

Thus it may be seen upon what treacherous ground we stand, with what difficulties we have to contend in taking charge of an injured eye, and how nice must be the discrimination, to adjust itself to the requirements of each individual case.

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* Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

A deep wound through the sclero-corneal junction, involving the ciliary body, must always be looked upon with great apprehension, as laceration of this body is the chief cause of sympathetic ophthalmia, which may develop within a few hours, days or weeks of the accident, or may not attack the fellow eye for years afterwards.

A foreign body within the eye is not only likely to destroy this organ by causing panophthalmitis, but is a menace to the unaffected eye. This renders it most important to extract an alien particle as soon after introduction as possible. If it be a piece of steel or iron, it often can be attracted from its position by the electro-magnet; while other substances usually can be removed with the forceps.

A probe should never be used to "explore" an injured eye. It is almost sure to do harm, even under expert guidance.

When the ciliary body is not involved in the injury, there is not so much danger of sympathetic ophthalmia developing. But in any case, it is necessary to be ever watchful for the first warnings of this insidious irritation in the noninjured eye, such as lachrymation, redness, photophobia, pain, et cetera, when, upon the manifestation of which, the immediate enucleation of the injured eye will probably be demanded.

I report a few cases of injuries to the eye, to illustrate the chief points in my brief paper:

CASE I.—In the summer of 1889, a young man presented himself at HIRSCHBERG's clinic, in Berlin, remarking that something had flown into his left eye while he was at work near an emery wheel. The chief assistant examined the injured eye, and turned him over to me to remove a supposed foreign body from the cornea. I found that apparently there was only a slight abrasion of the same. The eye was dressed and bandaged, and the man told to report at the hospital next day, should the eye give him any trouble.

The next day he returned to the hospital, suffering much pain; and the injured eye gave every evidence of a frightful inflammation, involving all of its structures; in fine, panophthalmitis. PROFESSOR HIRSCHBERG at once pronounced the case one of foreign body in the vitreus; and as the eye was suffering a destructive inflammation, he enucleated the organ. On making a section of same, a tiny piece of steel, not any larger than half the size of a small pin's head, was found in the vitreus. It had entered the eye through the cornea; but had not made any track, to be seen by the naked eye, other than the corneal wound. An ophthalmoscopic examination would have revealed the presence of a foreign body within the eye; and the prompt introduction of the tip of a magnet probably would have extracted the bit of steel, and have saved the eye. The case was very instructive to me, and I determined to profit through it, by making it a fixed practice, in all cases of injuries to the eyes, no matter how seemingly superficial, to thoroughly examine the deeper structures by means of the ophthalmoscope.

CASE II.—A distinctive instance of the great value of the ophthalmoscope as a diagnostic aid, and of the successful use of the magnet in extracting from the eye a chip of steel which had remained in the vitreus nearly eight months, is given in the following case:

On June 20, 1893, W. P., of Detroit, aged thirty-nine years, while driving a cast steel hammer through an inch board, by striking the former with a wrought steel hammer, had a small piece of the steel split off and strike his right eye. He was satisfied that the chip had not penetrated the eye, as all he could notice was a slight abrasion on the upper and outer part of the sclera. As there was no redness or pain, he did not consult a surgeon until a month later, when, on account of a blurring of the vision, he visited an oculist, who examined his eyes, and, finding an error of refraction, prescribed glasses. On January 1, 1894, the injured eye began to pain him, and gradually grew worse, until he was forced to stop his work and remain at home.

I saw the case for the first time on February 7, 1894. I found there was no scar on the eyeball. Vision equalled perception of light only with the right eye, while the left eye had normal vision. From the history he gave me, I suspected a foreign body in the eye was the cause of all his trouble; and my suspicions were confirmed by an ophthalmoscopic examination, which revealed an intrusive substance in the vitreus, lying on the floor of the fundus.

It was with difficulty that I could make him believe that the chip of steel was in the interior of his eye, and had been there for nearly eight months. He entered Saint Mary's Hospital, and consented to my attempting the removal of the chip with the electro-magnet, giving me permission to enucleate the eye if the magnet failed to extract the bit of steel. In the hospital amphitheatre, I made, with a **Beer's** cataract knife, an incision about eight millimeters long through the sclera, choroid and retina, and into the vitreus, commencing about five millimeters from the sclero-corneal junction, parallel to and on a line with the insertion of the inferior rectus muscle, so as to make the opening as near as possible to the foreign body. The large curved tip of **Hirschberg's** magnet, through which passed a strong current from a **McIntosh** storage battery, was brought into the mouth of the wound, but failed to attract the alien particle. I then plunged the tip into the vitreus and turned its point upon the floor of the fundus, and, on withdrawing the magnet, had the extreme pleasure of seeing a chip of steel adhering to its point, confirming my diagnosis. A stitch was taken, uniting the conjunctiva over the wound, and the eye was thoroughly bathed in 1–5000 solution of the bichloride of mercury and bandaged.

The chip of steel is triangular in shape and weighs a quarter of a grain. The man made a rapid recovery, and in three weeks returned to work.

Though the vision of the injured eye is not improved, yet as the ball retains its shape and almost normal appearance, it is far better than an artificial eye; and the patient is enthusiastic over his recovery, fully realizing that the removal of the piece of steel has saved his only useful eye from probable blindness through sympathetic ophthalmia.

Case III.—On September 24, 1895, M. M. W., a blacksmith, while working at his anvil, was struck in the left eye by a large piece of red-hot iron, seven inches long, one inch wide, by three-fourths of an inch thick, and weighing about one and one-half pounds. The force of the blow staggered the man. He was hurried to my office, in a dazed condition, suffering from shock, et cetera.

He presented a frightful appearance. The upper lid of the left eye was cut almost in two, its ciliary border hanging down over the lower lid. The cornea suffered a deep laceration, involving its outer half; but the eyeball miraculously escaped other damage. It required four stitches to unite the wound of the lid. The eyeball was thoroughly bathed in a 1–8000 solution of the bichloride of mercury, and bandaged. The wound of the lid united by first intention; though the eye itself made slow progress, owing to a cyclitis, the result of the concussion it had received, and from which it took many weeks to fully recover; but I am glad to report my patient as having normal vision with this eye, today.

I might go on reporting dozens of cases, but choose these three, as being interesting and instructive.

FISTULA IN ANO.*

By WILLIAM F. METCALF, M. D., Detroit, Michigan.

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It is not my intention to take the time of this society in detailing the development of the surgical treatment of fistulæ; neither shall I make mention of any method of treatment which I have not found by experience to be satisfactory.

By general acceptance "fistula in ano" has come to mean a sinus leading from the rectum or anal canal to the cutaneous surface (complete fistula), or into the substance of the surrounding tissue (internal incomplete), or from the skin near the anus into the substance of the tissue (external incomplete). In structure it resembles an indolent ulcer. Its frequency and the great local and systemic disturbances caused by its presence make it a subject of great interest to all engaged in the healing art.

I shall not, in this paper, endeavor to deal with those fistulæ arising from diseases of the genito-urinary tract and various other causes, which open into the upper two-thirds of the rectum, the anatomical relations of the lower third being entirely different from those of the upper two-thirds.

With your permission I will review for a moment the anatomy of the lowest third. It has no peritoneal covering. Its upper part is surrounded by the internal sphincter muscle, and its lower termination by the external sphincter. It is supported by the levatores ani muscles, the fibres of which blend with the longitudinal fibres of the gut between the sphincters. The longitudinal fibres of the rectum form a thick uniform layer. The circular fibres form a layer, especially thick near its lower end, where they act as internal sphincter. This muscular layer is connected with the mucous membrane by cellular tissue. In this connective tissue lie the blood-vessels and large lymphatics. The arteries run vertically toward the anus and through the capillaries convey the blood into the terminal branches of the inferior mesenteric vein.

Fistulæ in ano may be caused by penetrating wounds, by suppuration arising from injury to the mucous membrane from foreign bodies in the feces or from catarrhal dysenteric or gonorrheal inflammation extending into the submucous tissue. The suppuration may start in hemorrhoids, occasionally caused by improper methods of treatment.

The internal opening, the location of which is determined by the starting point of suppuration in connection with the anatomy of the parts, may be found superficial to the external sphincter, between the sphincters, or above the internal sphincter. This orifice does not always mark the highest point of suppuration, the mucous membrane being found separate from the muscle-layer for some distance above it. The tract is seldom straight and its calibre varies in size in different parts. Diverticula are often found communicating with the main channel. The mouths of those pouches sometimes become blocked and the confined pus forces its way through the skin at other points, thus the whole ischio-rectal tissue may become burrowed by these sinuses.

In fistulæ there may or may not be involuntary escape of flatus and feces, there may be pain and tenesmus, diarrhea or constipation, indigestion, emaciation, languor, aching across sacrum, neuralgia, and various other reflex phenomena and great mental depression. If the fistula arises from primary perforating ulcer of the mucous membrane, the patient may give a history of tenesmus, with the frequent passage of small quantities of feces, streaked with mucus, pus, or blood. If it arises from abscess a history of great pain and tenderness will be given, except in certain strumous cases. The diagnosis is not difficult. In passing a probe it should be directed by the channel and not forced by the hand of the surgeon. It is easier to pass the probe before the finger is inserted into the rectum.

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*Read before the Calhoun County (Michigan) Medical Society at Battle Creek.

A thorough examination of the chest and of the kidneys should be made. Many cases of nephritis are reported in connection with fistulæ. It is not yet known what part long-continued rectal irritation plays in producing congestion of the kidneys, through the medium of solar plexus. The propriety of surgical interference with fistulæ in cases of phthisis pulmonalis has been much discussed, many maintaining that if healing be obtained the pulmonic lesion increases with great rapidity. I believe this notion has not arisen wholly without cause. In persons having marked rectal irritation, the systemic capillaries are unusually contracted as evidenced by cold extremities and malnutrition. The removal of these irritations is followed by dilatation of these vessels and thus follows either a more rapid repair or a more rapid destruction of inflamed structures. I have observed this in necrosing bone as well as in necrosing lung. In incipient cases, especially of the fibroid variety, I know that the nutrition of the pulmonic and of every other tissue in the body will be improved by the cure of fistulæ. In cases where breaking down of lung tissue is inevitable, the suppuration may be more rapid but less extensive owing to improved circulation. In such cases, where the nutrition is low, it is better to avoid making submucous section of the sphincter, and great attention should be paid to the administration of tonics, stimulants and nourishment.

If there be no contraindications a fistula should receive radical treatment as soon as discovered. If there has been a recent accumulation of pus from blocking of the sinus, after causing its evacuation, better wait until the acute inflammation subsides before attempting its radical cure.

The two objects to be attained are complete obliteration of the sinus and the correction of all other forms of rectal pathology that fistulæ may not recur. The method of treatment must vary with each particular case, the guiding principles being—(1) antisepsis, (2) free drainage where required, (3) rest, (4) ligation of the bleeding vessels only, since crushing of tissues impair their nutrition and reflexly may disturb various organs, (5) avoidance of granulating wounds when possible as cicatrix may impair the function of the rectum and requires much time for its formation, which means a slow convalescence.

I wish now to detail the methods which have given me greatest satisfaction. A purge should be given three or four days before operation and repeated one day before. On the morning of the operation the colon should be thoroughly emptied by enema of a saturated solution of boric acid. The position during operation should be the same as for lithotomy.

External rectal sinuses I dilate with sounds, curette away the pyogenic membrane, apply a fifty per cent. solution of carbolic acid in Churchill's tincture of iodine and pack with gauze; or dissect away the pyogenic membrane and close the wound from the bottom. If the suppuration extend through the muscular coat of the rectum to the mucous membrane, I treat it as a complete fistula.

Into internal rectal sinuses I pass a bent probe and incise the skin upon its point, thus converting them into complete fistulæ, and treat them as such. In the majority of cases the internal opening is found between the sphincters, pus seldom passing through the two layers of fascia covering the levator muscle.

Now as to complete fistulæ. I do not know who first suggested the removal of the pyogenic membrane and closure of the wound, but I do know that the application of this thought, with a knowledge of the anatomy of the parts, will cure many fistulæ more speedily than can be accomplished by any other method. A probe should be passed through the main fistulous tract and its point drawn out through the anus and twisted around the handle. The whole circumference of the rectum should be examined for other abnormalities. If a strip of healthy membrane upon the side opposite to the fistulæ be found and no very great redundancy of mucous membrane exists the following procedure should be at once adopted: All inflamed pockets, ulcerated patches, hemorrhoids and papillæ should be removed with scissors, leaving unwounded the portion of membrane beneath which you intend to make section of the sphincters. This is easily accomplished by incising the skin at the outer margin of the external sphincter and passing through this incision and outside of the sphincter muscles a probe-pointed bistoury to the upper margin of the internal sphincter. The cutting edge of the bistoury is then turned toward and at right angles to the muscles which are severed as the knife is withdrawn, its probe-point impinging upon the index finger of the other hand passed into the rectum and pressing upon the membrane overlying the point of section. If fear is had of wounding this strip of membrane a director may be passed between it and the muscles to be severed. The skin wound should now be closed by one absorbable stitch and sealed with collodion. The bistoury should now be passed through the fistulæ, by the aid of a director, if necessary, and the tract laid open as in the ordinary operation. The assistants now hold the wound open with T-forceps while the operator, with tenacula forceps and scissors, dissects out the pus-producing membrane. Pouches from the main tract should be dissected out in the same way. The wound should now be washed with 1-4000 bichloride of mercury solution and closed from the bottom with kangaroo tendon, the skin edges accurately coapted and sealed with collodion. A pad of iodoform gauze held firmly against the anus with a Ţ-bandage completes the operation.

In cases where there are numerous sinuses, the membrane of which cannot all be dissected away, the main tract should be treated as above described, the other sinuses dilated and curetted and treated as external ones.

If, after passing the probe through the fistula, we find that the membrane covering the whole circumference of the rectum is abnormal or redundant the sphincters should be dilated thoroughly, the membrane grasped with T-forceps at the upper border of the diseased portion and amputated at this line. Dissection should then be made downward beneath the amputated portion to the skin-margin where it is cut off. Incision should be then made through the fistulous tract, outside of and parallel to the sphincters as deep as the fistula extends. The wound is then held open, the pyogenic membrane removed, and the incision closed as above described. The rectal membrane is now pulled down, its longitudinal fibres cut to prevent its being drawn upwards, and stitched to the skin margin, and a dry dressing applied. In this operation the internal opening is covered by healthy mucous membrane, all the diseased membrane being removed. The sphincters are not cut, an important point in those cases in which we have reason to fear nonunion. Where animal tendon is used as stitches, it should be buried. If stitches must be exposed better use silkworm-gut.

After all rectal operations, I think it advisable to permit only liquid diet. The anal wound to be irrigated, if need be, twice a day with a saturated solution of boric acid, the patient lying upon the side. Solution should not be thrown within the sphincters. The bowels should not move until the fifth day. This is accomplished by injecting two ounces of olive oil into the rectum, at the same time administering some laxative—compound licorice powder or citrate of magnesia—to be followed in an hour or two by an enema of a saturated solution of boric acid, having the patient lie upon the side to lessen straining. This should be repeated every second day, if need be, until healing is completed.

GASTRIC ULCER.*

By T. M. WILLIAMSON, M. D., Saginaw, Michigan.

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On October last I was hastily summoned to see a patient for whom I had prescribed a few days previously for pain in the pit of the stomach and hyperacidity and consequent symptoms of such acidity. On arriving I found the patient had vomited several pints of blood and was in a very weak condition. The hemorrhage recurred next day, thus adding to the gravity of the case.

The affection which gave rise to the foregoing history has been designated round ulcer of the stomach, a shape which it seldom assumes, however, except when it has gone on rapidly towards perforation. It has been better named chronic eroding gastric ulcer in contradistinction to the lesions produced by corrosive poisons, and which are merely incidents in toxic gastritis. It may, however, be acute or subacute.

The intention of this brief paper is to exclude those forms of ulceration which occur in the course of malignant disease, as well as those which have the characteristics of tubercle and syphilis. In fact, you will observe before I have finished that this essay apologizes for the twenty-four hours' notice which I received to prepare it, by the absence of many cardinal points relative to the disease, and that the main intention of the writer is to provoke discussion, and for this purpose ample room is afforded.

These ulcers have been caused in animals by provoking emboli artificially, by ligation of small vessels, et cetera, the gastric juice attacking the part deprived of its normal nourishment, just as it does a dead stomach but to a greater degree. Direct mechanical, thermal or chemical lesions to the mucous membrane heal with surprising rapidity, the cicatrix advancing from the margin to the center with complete restoration of the membrane and no trace of the injury. Such lesions cannot properly be called ulcer, as the latter, to preserve its proper identity, must at some period of the process show a disposition to spread. Another factor must be brought into play, namely, a disproportion between the gastric secretion and the nutritive blood. Ebstein produced gastric hemorrhages and eroding ulcers, and even perforation by injury to the anterior corpora quadrigemina, presumably creating an excessive production of acid by the central irritation. In the stomachs of animals in which hemorrhage had been induced by section of the spinal cord, Koch and Ewald caused deep ulcerations by introducing a one-half per cent. solution of hydrochloric acid. Many similar experiments have been made by various observers, all tending to establish the fact that vulnerability of the tissues must coexist with a disproportion in chemical reaction between the gastric secretion and the nutritive blood, as all losses of substance produced by these experimenters with both these factors in view healed very tardily and would even at times go on to perforation, bearing a close analogy to the clinical picture of true gastric ulcer.

How very seldom ulceration results from gross injury to the normal mucous membrane is illustrated by the behavior of that long-suffering membrane in the case of jugglers and other foolhardy individuals who swallow open penknives, et cetera, with apparent impunity. As before mentioned the other factor must not be absent. Normal gastric juice and normal blood do not cause an ulcer in such cases, nor further its course, nor prevent its healing. One authority, **Lenbz**, states that "in chronic gastric ulcer we must assume the coincident appearance of two causes of corrosion—anemia and an occasional abnormal acidity of the gastric juice," but **Ewald** concludes that "these factors are merely adjuvants, and we must deal not so much with the alkalinity of the blood, but rather with its altered composition and the resulting insufficient nourishment of the cell."

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* Read before the Saginaw County Medical Society.

It is well known that eroding gastric ulcer arises from anomalies in the composition of the blood, suppression of the menses, chlorosis, anemia after parturition, et cetera, occur too frequently in connection with gastric ulcer to admit of any doubt as to their etiological relation. The very tendency of gastric ulcer to relapse proves how nicely the balance must be adjusted in the interim to secure to such individuals even a transient immunity. The tuberculous diathesis may be considered a factor at times in the production of the lesion under consideration, and no doubt contributes its influence by reason of the increased vulnerability of the tissues in such subjects whereby great effects result from slight causes.

Gastric ulcer bears much the same relation to the tuberculous as does fistula in ano. Ulcers of the duodenum and burns of the skin in young subjects need only be mentioned, as no satisfactory explanation of their occurrence has ever been given. Females seem twice as liable as males to suffer from gastric ulcer. No age is exempt. Childhood is practically so up to the fifteenth year, doubtless on account of the increased reparative force present in the young. From twenty to forty most cases are met with, and from forty to sixty the greatest mortality. Female servants seem most liable and especially cooks.

With regard to the pathological anatomy of this lesion, it appears that the vast majority of gastric ulcers arise from hemorrhagic infarctions or follicular hemorrhages, the tissues in the neighborhood for obvious reasons offering no resistance to the action of the gastric juice. Old ulcers which have healed show the result of reactive inflammation in the callous margin and base. In its earlier history the ulcer is funnel-shaped with a well defined margin, the base usually smooth or with few inequalities, occasionally covered with small blood clots or with tenacious greenish or brownish mucus. Its size varies from that of a nickel to that of a silver quarter though exceptionally very large. Its site is preferably the pylorus or greater curvature, usually corresponding to that portion of the stomach which is most dependent on standing. They are rarely multiple. Such ulcers may terminate in (1) cicatrization with centrally depressed scar, sometimes constricting by its contraction the viscus itself or one of its openings; and (2) progressive necrosis and corrosion, ending in either erosion of large vessel and consequent hemorrhage or in adhesion to neighboring organs and perforation.

The *symptoms* of this affection may be practically latent altogether until death supervenes by hemorrhage or perforation. We may have the symptoms common to all gastric troubles. The tongue may be clean but the bowels are usually sluggish. Temperature is normal unless there chances to be coexisting inflammation. There is a tendency early in the disease to a loss of flesh. The pain, when present in its *characteristic form*, is of a boring character, sharply localized and darting from before backwards, generally increased by external pressure and usually brought on by the presence of food in the stomach or by taking food or drink too hot or too cold. It may occur when the stomach is empty from hyperacidty, or from distention by gases. *Vomiting*, when a feature of the disease, comes on soon after eating, and is due to direct irritation and not to accumulation of food as in gastric dilatation. The food is brought up very slightly changed, much as is observed in the morning vomiting of drunkards.

Hematemesis is variable in amount. If a small quantity only is vomited it is usually of the coffee ground character; if profuse it is almost unaltered. Large hemorrhages are liable to cease in a very short time. Even after these large, oft-recurring hemorrhages anemia rarely follows. Usually patients soon rally and under treatment fully recover. It is rare for gastric hemorrhage from ulcer to be immediately fatal.

When the disease deviates from its typical symptoms it may be confounded perhaps with nervous gastralgia or gastrodynia or with carcinoma. Careful observance will usually prevent, however, an error in diagnosis. Unfortunately the disease is sometimes so masked that no symptoms suggestive of its gravity arise, and at other times offers a chain of evidence altogether misleading, so that there is perhaps no disease which can so effectually hide its existence or conceal its identity as chronic gastric ulcer. An examination of the gastric contents might aid in early diagnosis by demonstrating acidity, which would exclude carcinoma. Slight hematemesis might occur and especially may melena occur without the knowledge of the patient.

The *prognosis* is usually favorable if the patient is manageable and will submit to proper treatment which consists in—

(a) Absolute rest in bed.

(b) Laxative saline mineral waters and rectal alimentation. Later on liquid nourishment, and after three weeks a more generous diet, tonics—preferably the hypophosphites at first owing to liver's inactivity usually, and iron preparations subsequently along with arsenic, which is one of the best.

For gastralgia—anodynes, especially morphia.

For hemorrhage—absolute rest, ice, morphia and ergotin hypodermically.

THE PROGRESS OF SURGERY DURING THE PAST YEAR.*

By E. B. SMITH, M. D., Detroit, Michigan.
PRESIDENT OF THE WAYNE COUNTY MEDICAL SOCIETY.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

THE conquests of the closing decade of our century will serve to maintain the march and camp-fires of medical and surgical science, and carry us through the midnight darkness of unscientific prejudice. Anatomical restrictions are fast being swept away and the surgeon today feels that the body is wholly at his disposal, and that any part of it is within reach of his skilled hand. In trephining, we remove not only the outer plate of bone but also the membranes of the brain, and even the brain substance itself is handled. Although the medulla oblongata and the central portions of the brain substance are not invaded by the surgeon, still this is only because he feels that such procedure would be attacking structures necessary to life. In the thoracic region we not only cut down and view the pleura, but we incise it, and passing in further remove gangrenous portions of the lung itself. The pericardium is aspirated without hesitancy, and in wounds upon the heart we are taught by advanced surgeons how to repair the tissues of this organ and to tap the heart itself. The mediastinum does not escape the touch of the surgeon's hand, and we read of the surgeon repairing the tissues and of removing neoplasms found there. The abdomen and viscera contained therein are daily manipulated, and that great barrier in abdominal surgery, the peritoneum, is pushed aside, cut through, and then repaired as if it was a friend and not a foe of the surgeons. The kidney, which has escaped the hands of surgeons heretofore, is now forced to give its allotted percentage in the recorded cases that are daily accumulating.

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*Presidential address delivered at the annual meeting of the Wayne County (Detroit) Medical Society.

We can see and read between the lines of the surgery of 1895, that she restricts herself as closely as possible to the taking away of diseased portions only, leaving as much normal tissue as possible. All operators as well as medical men should read the address of DOCTOR H. C. WOOD, of Philadelphia, read before the Cleveland Medical Society, on June 28, 1895. In this the surgeon will learn what will be of interest and profit to him in caring for his cases, and it will enable him to master the conditions brought about by prostration, et cetera.

BACTERIOLOGY.

A great number of new facts have been discovered in connection with bacteriology, but there has not been enough done in the direction of classification. The present methods of differentiation of species and groups are very crude. Our culture mediums are not standardized as they certainly should be. Many additions have been made, however, to our knowledge of the relation that bacteria bear to disease, and of their susceptibility to various germicides. In this respect bacteriology has advanced, but it cannot as yet be classed, as I hope it will be, with zoology, geology, or botany.

The faith in bichloride of mercury as a germicide has undergone a slight discount; boric and salicylic acids, it is found, are not as powerful as they were once thought to be; but carbolic acid seems to maintain a pretty fair place. It is thought by some that in the near future the toxins and antitoxins will entirely supercede all the ordinary chemical antiseptics. What will really be the result, and which ones will remain in the ascendant, is as yet a matter of speculation. I can affirm at least that, whatever may be the fallacies in the germ theory, and whatever may be erroneous in our ideas about antiseptics, yet, with our present surgical methods based upon this theory and these ideas, we have obtained a vastly greater percentage of good results than did our ancestors who were not cognizant of these methods. Therefore, I think I am safe in saying that antiseptics and the principles upon which their use is based has revolutionized surgery. Perhaps you may think that in making this statement I am going beyond the ground of 1895, but as you all know, the antiseptic question is now in the heat of its discussion, and by some scientific men has been decried as a farce, while others who have not been absolutely infidels with regard to this question have laughed at our scrupulous care in preparing for what we call aseptic operating. The time is now past when physicians will be graduated from any respectable school without knowing and understanding the principles of bacteriology as discovered and formulated to date. A man who, understanding these principles, has made cultures, has inoculated the lower animals, and has tried experimentally the effects of antiseptics, will not be a disbeliever in the propriety of so-called aseptic operating. A great many new antiseptics are being daily thrust upon our notice, but I think it sufficient here to mention that the old ones still have their place, while the new ones will be like the dew of the morning whose glittering glory rapidly fades before the burning heat of the rising sun.

Even neurologists have to thank bacteriology for valuable assistance in the form of the diagnosis of cerebrospinal meningitis. **Scherer**, of Germany, has found that in patients suffering from this disease the nasal passages are the seat of the diplococcus intracellularis meningitidis of **Weichselbaum**. An examination may be made by smearing some of the nasal secretion, obtained as high as possible, over a cover-glass, staining with a watery solution of gentian violet, and placing it for examination beneath a one-twelfth or one-sixteenth oil immersion objective. Within the leucocytes, the bacteria will be found scattered about in pairs enclosed within a capsule. It would be seen from this that meningitis is infectious, and that infection may take place through the pelvic organs or through the air passages. We should accordingly treat the pelvic and nasal secretion in these patients as infectious.

ANESTHESIA.

There is still great diversity of opinion as to which is the best anesthetic for general use. In Detroit we prefer chloroform, superceded, when we have a long operation, by the injection of morphine and atropine. Although the majority of physicians recognize the importance of having at hand various articles for use in emergency, still it seems to be a practice very poorly carried out. One should have at hand a hypodermic syringe, tablets of nitroglycerine and strychnine, and if possible a battery and pure oxygen. Ether should also be at hand in case the heart should show signs of weakness, and of course forceps for use in case the tongue needs attention.

For local anesthesia a four per cent. solution of cocaine hydrochlorate is the most useful one we have, and I would especially recommend it to the younger members of the profession, remembering always that we must take care to keep it out of the general circulation, and as soon as the operation is over to aid its elimination by free hemorrhage. Ethyl chloride in the form of a spray is very convenient and free from danger, but its anesthetic effect is neither so profound nor so lasting as others.

An observation has been made by a German physician which, if true, will obviate one of the chief dangers from the administration of chloroform. He claims that the nasal mucous membrane is the seat of nerves communicating in such a way with the cardiac system that the local action of the chloroform on those endings causes the sudden deaths that we have sometimes recorded. A little cocaine or even vaseline smeared by means of a swab over the nasal mucous membrane obviates this danger.

Maurel, of Paris, after a series of experiments on cocaine, has concluded that it has a distinct action upon the white blood corpuscles, and that the chief danger in its administration is due to its power of contracting the smaller blood-vessels.

The use of ether is contraindicated in operations about the mouth or air passages, also in acute bronchitis, in renal diseases, or when we use the actual cautery. A little procedure that may prove even a benefit to either the physician or surgeon in diagnosis is that proposed by **Rivolta**. It consists in the use of acetic acid as follows: If, after a few drops of the acid have been added, the serous exudate gives a precipitate soluble in excess of the acid, then we are dealing with an inflammatory condition. Noninflammatory exudates do not give this precipitate.

SHOCK.

Often one of the most formidable conditions that the surgeon has to combat is shock. It is more likely to occur in the more nervous organisms but often comes on when least expected and in patients the most unlikely. It may ensue after severe contusions or operations, with or without much hemorrhage, or it may come on from hemorrhage alone. The patient appears to be, and often is, on the verge of death, heart action being almost entirely lost. Death sometimes results almost instantaneously from a moderate injury. Excitement following prostration after an accident or operation is a dangerous condition, and that form of shock characterized by more or less mania is usually fatal. Treatment must be immediate, and the medicine must be quick in action. The hypodermic syringe is our greatest support. Where there is profound collapse amyl nitrite, nitroglycerine, strychnine and atropine bring up the failing circulation. Hemorrhage and other complications must be treated symptomatically. Hot water bottles to the feet are found beneficial.

DIAGNOSIS.

We do not as yet, I think, recognize the full importance of pathological examination. In anemia it is not difficult to count the blood corpuscles, that is, to estimate the number to the cubic millimeter. On the other hand there are few more valuable points ascertainable in the treatment of our surgical and other cases than are to be found by a proper analysis of the urine. Before we pronounce a final diagnosis on a neoplasm it should be subjected to a thorough microscopical examination. If we did this with some of those troublesome cases in which we have to curette the uterus we might detect malignancy oftentimes in its earliest stages. I have not spoken of the examination of the sputum and tissue for tubercle bacilli, but I think it is now pretty generally recognized that our success in the treatment of this disease is dependent upon early diagnosis. Much greater care is required in examining for bacteria than in examining tissue.

ANTISEPTICS.

Not less important than the treatment of tuberculosis itself is the disinfection of tubercular sputa. Of equal importance may be considered the disinfection of all manner of pathological excreta. Boiling, although efficacious, is not always convenient. Wood vinegar has been brought forward as a cheap and efficient disinfectant. It destroys tubercular and pus bacilli in six hours and even anthrax spores in a few days. Its powerful action is probably due to the contained guaiacol.

Certain experiments have been made this year by German investigators in order to find out how the healing process is affected by the presence of chemical and parasitic irritants. Sponges were placed in the peritoneal cavity of the guinea pig, some being soaked in turpentine and iodoform to test the effect of chemicals and others in a culture of staphylococcus. In twenty-four hours the turpentine sponges were fixed down by a layer of fibrin. On examining microscopically the cells were found to be injured in direct ratio to their nearness to the turpentine. The experimenters think that the endothelial cells play a very important part in wound healing. The formation of new capillaries was visible on the second day. The iodoform sponges resembled those of the turpentine very much. Throughout the entire number of experiments it was found that the usefulness of iodoform in aseptic operations is to be questioned, since so long as iodoform is in the foreign body no organization takes place. In the staphylococcus experiments the body seemed covered over with a yellowish fibrinous purulent exudate, with the localized turpentine. The exudate cells envelop the cocci and break them up. The vessel formation begins on the third day and about the fifth day the germs seem to be driven like a herd into the center of the body where they are rapidly taken up by the exudate cells and soon die. The granulation cells that we noticed loaded with cocci die themselves also, while others having only a few, survive.

Several additions have been made this year to the surgeons' armamentarium in the form of antiseptics. Acetanilid has come into more extended use and those preparations containing active oxygen still maintain their reputation. But as I have before noted, the application of antiseptics has been limited, perhaps even changed somewhat by our German contemporaries who do not advocate the use of strong antiseptics on wounded surfaces but pay more attention to obtaining aseptic condition of instruments and the surface to be operated upon. This leads to a difference in surgical technique. Formerly the operation was more antiseptically cared for than the preparation. A year ago antiseptics, I think, were at their acme. A point had almost been reached when a surgical patient was to be placed in a glass case and the operation performed by a contrivance admitting of manipulations from without. It is certain that we should not convey any more germs than possible to a wounded surface, and for this reason instruments, ligatures, bandages, and everything used in connection with the operation should be as aseptic as possible. It was once supposed that one germ was as bad as a thousand, but recent experiments have shown that a certain number are necessary to produce constitutional symptoms, this number varying of course with the condition of the patient and the kind of germ. While I do not believe in the glass-case operation, neither do I believe in picking up an instrument that has fallen on the floor and using it without disinfection.

SUPPURATION.

Zeidler has come to the conclusion that the best treatment for suppurative processes is free opening and drainage. He does not disinfect the wound at all, but merely wipes it out with sterilized gauze, and when necessary irrigates with a sterilized salt solution. He acts on the principle that the tissues combat the bacteria and not the antiseptics, which latter, he thinks, inhibit tissue cells as much as the germ cells. **Henle**, however, has experimented by inoculating both ears of a rabbit with staphylococcus and then disinfecting one with a 1–1000 bichloride solution and leaving the other alone, has found an abscess to form in the latter, and the former which was disinfected to heal quickly.

Reichel has tried to ascertain whether or not there is a constitutional predisposition to suppuration. He found that whatever favored absorption of the microorganisms or ptomains lessened suppuration, and vice versa. For instance, that a sluggish circulation interfering with proper absorption favored suppuration, and that bleeding often hindered suppuration, probably by increasing absorption of all the toxins in the body. The intravenous injection of a sterile salt solution acted in the opposite manner. **Reichel** also maintains that the disinfection of a wound is useless, but that loosely packing a wound with sterilized gauze converts the deep into a superficial suppuration and serves in this way a useful purpose. He has found, also, that large doses of bicarbonate of soda, by increasing the alkalinity of the blood, lessen liability to suppuration.

In those suppurative cases following incisions made in the skin, no doubt the imperfect disinfection of instruments and dressings is responsible more frequently than any other cause. If every surgeon, and indeed every practitioner, would read the work written this year by CHEYNE we would have, I think, less suppuration following operations of any character.

SERUM THERAPY.

Serum treatment, whether it prove entirely successful or not, marks an era in the advancement of medical science. First we had the treatment of tuberculosis by KOCH's tuberculin which, however, up to the present does not seem to have given the results that we at first expected of it. This was shortly followed by the use of antitoxin in diphtheria. I may sum up the preparation of this valuable product in a few words as follows: A horse is inoculated with the KLEBS–LOEFFLER bacillus of diphtheria and after being thoroughly impregnated with the germs the horse recovers health by means of antitoxin formed in its blood; all that is then necessary is to draw off a quantity of the animal blood, separate the serum which contains the required antitoxin; this pure or diluted to the proper strength is injected into patients suffering from diphtheria. According to the latest reports from Germany gathered from statistics of over 10,000 cases, the percentage of mortality from the antitoxin treatment is at least one-third less than that from other treatments, namely, tracheotomy, intubation and regular medical treatment without the use of antitoxin.

The treatment by nuclein is analogous to that by antitoxin, but different from the treatment by toxin, which latter has been advocated more particularly in the treatment of malignant growths.

COLEY, of New York, has been the warmest advocate of the use of the toxins of the streptococcus of erysipelas and of the bacillus prodigiosus in the treatment of sarcomata and carcinomata. He gets marked improvement in many cases and complete recovery in others.

SENN, on the other hand, claims to have used it quite extensively and to have obtained very poor results; the rationale of the treatment is as follows: The streptococci themselves are first injected so as to produce erysipelas in the individual having the growth, but this proved to be rather too dangerous a treatment and was abandoned for the use of the toxins produced by the germs. A culture in beef bouillon is prepared and kept at body temperature for ten or twelve days, the bacillus prodigiosus may then be added to the culture and kept a few more days, when the bouillon is sterilized completely by a subjection to the heat of 60° centigrade for an hour and is then ready for injection. A minim or two is a sufficient dose to begin with. The toxins of the streptococcus and bacillus prodigiosus as used by COLEY, of New York, give better results than do those of the streptococcus alone. They do not seem, however, to have much effect in carcinoma nor in osteosarcoma, but in a number of cases of undoubted sarcoma the treatment has been followed by excellent results. The failures of SENN are no doubt due to an improper selection of cases or to a neglect of some principle in the preparation of the toxins.

One of the leading experimenters in the treatment of tuberculosis by blood serum has been **PAQUIN**, of Saint Louis. It has been a fact known for some time that a horse is very refractory to tuberculosis, and it was quite a natural sequence of thought to suppose that this animal possesses some antagonistic agent in its blood serum. In order to utilize this for therapeutic purposes the horse was rendered entirely immune to tuberculosis by a series of injections—first, of the filtered culture medium, then of sterilized cultures containing the dead bacilli, and finally live ones until the animal did not react to the introduction of large numbers of the bacilli tuberculosis. Having reached this stage the serum of the animal contains the necessary principle, or whatever you wish to call it, and is ready after simple sterilization to be injected into human patients.

A treatment like this seems quite rational; quite a step aside from dosing with antiseptics and nauseating mixtures that are so severe in their action upon the weak and disordered digestive tracts of consumptives. Besides, we cannot administer ordinary medicines in such quantities as to be carried by the blood serum, which in the serum therapy treatment is exactly what takes place.

The use of serum in syphilis is dependent upon an entirely different basis from that of its use in diphtheria. All the lower animals being immune to this disease their serum confers more or less immunity. In practice it seems rather to relieve certain symptoms than to produce a radical cure of the disease, that is, it attenuates rather than cures.

The use of nuclein, too, must not be forgotten. As it has been noticed that the blood of strong and healthy individuals contains a much larger percentage of nuclein than those in a depraved condition of body, it was looked upon as being significant that this is the active germicidal principle produced normally by healthy cells. **VAUGHAN** and others have devised methods for obtaining this nuclein from yeast preparations, and we are now able to inject these active principles into the bodies of those lacking a normal amount of nuclein. Very encouraging results are being obtained in this direction in the treatment of diphtheria, scarlatina, and more lately in the treatment of those intestinal troubles of children so very common in the hot weather, and ascribed, I believe correctly, to bacterial origin.

Another, and what seems to me a more rational use of the streptococcus serum, is its use in erysipelas and puerperal fever. The serum is that obtained from an animal which has been immunized, and is used in doses of from five to twenty cubic centimeters hypodermically. We have reports also from India that a serum is being used there to immunize people to the bites of the cobra and other poisonous reptiles and insects.

THYROID TREATMENT.

The treatment of goitre by the ingestion of thyroid extracts has been tried pretty thoroughly, both in Europe and America, many encouraging results having been obtained. Summing it up its effects seem to be more beneficial the younger the patient, while in most cases over fifty there is a majority of failures, and in those under twenty a majority of recoveries, either partial or complete. These cases are benefited only when the growth is hyperplastic. No effect can be obtained when cystic colloid or fibrous degeneration has taken place. The gland extract seems to act somewhat like digitalis, having a similar accumulative effect, and as one or two deaths have been reported on the continent, the patient who is taking it should remain in his room and have his heart examined daily, even after treatment has been suspended.

TRANSFUSION.

Transfusion is the subject of a discussion by **Ziemssen**. He shows that the infusion of the normal salt solution while active and easily obtainable gives transitory effect. Where transfusion is indicated blood must be used sooner or later. He points out the fact that arterial pressure remains low for some time after improvement, both in quality and quantity of the blood. Akin to this question might be considered the question that has arisen in some minds concerning the injections of blood serum in diphtheria patients. We should consider whether the good effects are not due to some extent, at least, to the serum injected, as well as to the contained antitoxin, which latter also has the power of increasing the fluid contents of the blood.

We have seen reported a fatal case of excision of the Gasserian ganglion. Considering the purpose for which this operation is done, one should be rather careful in undertaking it, remembering that bruising the brain matter, however slightly, is a danger, and that in some individuals peculiarities exist making **Hartley's** operation difficult.

Forbes, of Philadelphia, removed a pulsating tumor on the scalp two inches in diameter controlling the blood supply by acupressure pins on the occipital arteries. The vascular tissue was dissected out between the wound and the pericranium, and the wound closed. The pins were removed in six days and good recovery reported.

RESPIRATORY TRACT.

There has been little advancement in the surgery of the lungs and respiratory tract. Intubation of the larynx is not resorted to as frequently as formerly, while tracheotomy is considered good practice. In accumulations of fluid in the pleural cavity, aspiration is the procedure at first but on recurrence we must resect. We may remove a considerable portion of one lung in case of abscess when it has been demonstrated that thorough oxygenation may be carried on in the remaining lung.

HEART.

Delvecchio, in reporting his experiments before the congress at Rome, where he showed a dog whose left ventricle had been wounded in two places some thirty days before, gave it as his opinion that the interrupted suture was better than a double continuous suture, and that catgut and silk were to be used; and further, his conclusions were, regarding wounds upon the human heart, that the operative procedure should be as follows: "The longitudinal incisions to be made from the lower border of the third rib to the upper border of the seventh, the one along the lower margin of the sternum, the other five to ten millimeters inside the nipple line, these incisions to be joined by a horizontal one made in the fourth intercostal space. The fourth, fifth, and sixth ribs and cartilages to be divided, and the outer cutaneous flaps turned up. The pleura to be separated and pushed to one side with the finger, exposing the pericardium, which is incised longitudinally. The wound is then united by interrupted sutures."

STOMACH AND INTESTINES.

The methods and technique of the examinations for diagnostic purposes in diseases of the stomach and intestines is fraught not only with difficulty but also with danger. But such men as **Ewald**, **Osler**, and **Turck** have by their diligent researches been able to formulate methods by which we are able, with some degree of accuracy, to determine the acidity of the secretion of the stomach, the digestion of albumen and starch, the different neoplasms of the esophagus, stomach and sigmoid.

Professor Turck, before the New York Academy of Medicine last May, demonstrated the use of the gyromele, the gastric motor metre, the stomach tube filter and the rubber bib and punch. He showed how strictures of the esophagus, stomach or sigmoid could be located, and the dilatation or contraction of the stomach could be mapped out; the procuring of a specimen from the walls of the esophagus, stomach or sigmoid, and so securing a bacteriological, microscopical and chemical examination from the proper source; the application of massage to the same places; the complete application of the electrode to all the parts, and the effect that this will have upon constipation. This is about the office of the gyromele. The gastric motor metre is for the purpose of showing the contractions and movements of the stomach. The stomach needle-douche is used for the purpose of removing material from the walls of the stomach; to douche the walls with hot water and cold water separately or alternately. The direct return prevents distention, et cetera. The nebulizer is for the purpose of applying to the inner surface a fine cloud of any medicated oil. Its peculiar use is an analgesic in lieu of morphine, and also for application in ulcer to stomach or colon. The stomach tube filter is to remove the hypersecretion from the stomach, allowing the proper food to remain. The rubber bib with pouch is simply a catch basin to receive mouth and stomach contents that are thrown off. The last year has seen more, many more, exploratory incisions for the diagnosis of stomach troubles, and it is acknowledged that to be of use gastroenterostomy or gastrostomy should be performed early.

PERITONITIS.

In what way the incision through the abdominal parietes acts in relieving and curing abdominal tubercular peritonitis we are unable to say; but what has been again and again demonstrated, both upon the human subject and upon the lower animals, is that it cures in a great number of cases. The causes have been sought for in experimenting with sunlight, and aseptic and medicated air, but it still remains unsettled.

STOMACH.

Doyen supposes a spasmodic stenosis of the pylorus to be the cause of the greater number of stomach disorders, and advises for chronic stomachal dyspepsia and for ulcer of the stomach operative interference, gastroenterostomy for the first, and for the latter, excision of the ulcer and the ordinary suture to close.

SURGERY.

Abdominal surgery has had more attention of late than has thoracic, but the latter has not been entirely neglected. We have again brought to our notice a modification of **Hawley's** method of blood-letting from the viscera. **Simpson** reports having drawn twelve ounces of blood from a congested lung by means of a canula. The wound was allowed to plug itself by coagulation. This mode of relieving engorgement of the lung is worthy of a trial. We are less concerned with regard to the entrance of air into the chest on the removal of purulent collections than we used to be, and, although we should not ignore therapy entirely, it is the concurrence of opinion at present that the removal of large accumulations of fluid by surgical procedure is eminently proper; aspiration answers well with serous accumulations, but resection must be performed in cases of empyema. We should remember that the enfeebled lung cannot expand suddenly to fill up the space formerly occupied by a fluid accumulation, therefore, a gradual drawing off of the fluid should be observed. Resection of the lung in pulmonary gangrene gives good results. Cox reports two cases of empyema, one of which was aspirated and made a good recovery, and the other, allowed to discharge spontaneously, yielded nearly a quart of pus daily for nearly eight months.

APPENDIX.

The vermiform appendix, that most important organ, I was about to say, in the intestinal cavity, has been the subject this year of a great deal of investigation, both anatomical as to position and blood supply; histological as to the relation its tissues bear to the surrounding tissues; physiological with regard to its normal functions and uses, and pathological as to the manner in which inflammations commence and extend. With regard to this latter we find inflammation commences within the lymphoid tissue of the mucous membrane and extends outward involving the coats in succession. If, however, it remains within, a catarrhal appendicitis is the result; but if it extends through the coats, a diffuse interstitial appendicitis ensues. As an example of what may be done in intestinal surgery, **Canthorn** reports having removed, on account of a tumor, forty-three inches of intestine. End-to-end anastomosis was secured by a Murphy button, and the man made a good recovery.

APPENDICITIS.

The causes of appendicitis have suffered a revolution in the minds of surgeons and physicians in the last year, and from different writers I deduct the following, in their order, as the causes: (1) Catarrh of the cecum and colon; (2) microorganisms; (3) inflammation in adjacent tissues or organs; (4) foreign bodies in the appendix; (5) injury. This would give the different names of the different kinds of appendicitis, as interstitial infective appendicitis with or without abscess, and this would mean an appendicitis having from a drop of pus to one made up of a large pus cavity, holding a pint or more. No age is exempt from this malady, but the years from ten to twenty-five seem to be the most frequent epoch, males being affected much more frequently than females; ratio three to one. Signs: The first attack usually comes on suddenly with the patient in good health; the pain is localized and may alternate with periods of comparative ease. Sometimes at the height of the pain there will be vomiting. Constipation is the rule, although diarrhea may supervene. There is often pain on micturition and tenderness over McBurney's point. The temperature in mild cases is 100° to 102°; the pulse varies according to the severity of the attack and is the cardinal point upon which I think the disease pivots. The literature of the year seems to bear this out. A patient with the signs and symptoms of an acute attack of appendicitis may have a temperature of 103°, 104°, or even 105°, and the pulse indicate recovery, being full, strong and about 90; but a case presenting the same symptoms, except that the pulse is rapid, inclined to be thready and 100° to 120°, is one in which the prognosis should be very guarded, if not bad. ·The position of the patient is generally upon the back, with the right limb flexed.

EPILEPSY.

Epilepsy has not received much real help from scientific advancement. Tumors of the brain are frequently hard in diagnosis, especially hydatid cysts. We must remember that cases will sometimes be very misleading, and that there is at times a history of trauma followed by epileptic fits that lead us to think of traumatic epilepsy, when really the supposed trauma occurred at the time of commencement of the hydatid cyst. **Pel** reports a large tumor of the cortex without characteristic symptoms.

The question of an etiological relation between tabes dorsalis and syphilis is the subject of considerable discussion among neurologists. The probability that there is a relation, is the opinion of the majority. **Leyden** holds the opinion that tabes originates in the posterior roots and extends through the posterior columns; and that the disease of the posterior roots commences at the peripheral endings; while **Edinger** advances the hypothesis that tabes is a disease of exhaustion referable to disturbed nutrition of the cord induced by some noxious agent. Among symptoms **Schiff** reminds us that muscular atrophy is more frequent than is generally supposed in those cases. **Biernacki** names a pathognomic symptom of tabes in the fact that pressure upon the ulnaris, in the sulcus ulnaris at the elbow, produces no sensation of pain. With regard to treatment I may mention that phosphate of sodium has given good results in Germany. Such a simple and harmless remedy is at least worthy of trial. Wonderful results have been reported from the use of **Brown-Sequard's** testicular fluid, but further reports are necessary in this direction.

It is to be remembered that epilepsy so far has been benefited by operation only when it is due to the lesion of the cortical motor centers, especially in those cases where the distinct lesion as a cyst is present.

BRAIN SURGERY.

Perhaps as much advancement has been made in this branch of surgery as in any. The points of cerebral localization have been more definitely determined and we can now, with considerable accuracy after mapping externally, cut down upon many of the centers. The utility of this is apparent in the treatment of epilepsy and chorea, in the manner advocated by quite a number of our leading surgeons, besides being of immense value in cases of fractured skull and contusion of the brain substance.

Charcot, the head light of modern neurology, was, just before his death, writing a work on "Cerebral Localization." Although unfinished, a number of interesting points were brought forth. The motor centers he revised but little, with the exception of the facial which he places at the inferior extremity of the fissure of Rolando. Regarding common sensation he cites the conclusion arrived at by the British Medical Society, that motor paralysis is not dependent on tactile sensibility, and also that the recovery of function in some cases is not due to the taking up by a region in the one hemisphere of the power lost by mutilation of the corresponding area on the other side. **Charcot** thought that the cerebellum had no share in psychical manifestations. He discussed fully the subject of aphasia and infantile paralysis. In tubercular meningitis tapping of the vertebral canal has been resorted to and I believe performed over one hundred times by **Furbringer**, but so far has proved of little value except as a means of diagnosis. Craniectomy has been advocated for microcephalus but is not found practiced by the best surgeons. Laminectomy, division of the laminæ of the vertebræ, is now frequently performed in cases of fracture with pressure on the cord; also with marked success in hydrocephaloid. The removal of tumors, especially the angiomata, from the brain substance is now a feasible operation. In many of those cases in which tumors have existed or blood clots have formed, defective mental powers have been prominent symptoms, and with surgical interference have disappeared. This is quite an advance.

The greatest advance in brain surgery, however, is that of the treatment of suppurative thrombosis of the sinuses. The transverse sinus can be reached from the mastoid process or from the cranial cavity after craniectomy, tying the jugular vein and cleaning out the sinus.

EAR.

Along this line be it remembered that the results of disease of the middle ear are far reaching, and in a considerable number of cases complicated with brain lesions such as abscess, sinus, thrombosis and leptomeningitis. To **Macewen** and his late publication and his investigations we owe much of our knowledge. In cases of otorrhea the attending physician should be ever on the lookout for symptoms that point to the above train of complications and when any of them show itself he should be ready to resort to operative measures for the relief of the same. **Macewen**, **Lanphear** and others have proven this treatment to be not only good but excellent. I have in two cases personally operated, found pus in the mastoid cell and relieved the complicated cases. **Doctor Maire** and **Doctor Milton D. Greene** have assured me that they have cut short the invasion of septic material to the brain meninges, its starting point being the middle ear. **Macewen**, in a paper on brain surgery, makes the following deductions: "All abscesses of the brain are secondary to infectious disease located elsewhere, chiefly in the middle ear. Such abscesses are usually most easily reached through the antrum and it is best to remove the whole infectious tract."

SURGERY.

McBurney reminds us that, in those cases of appendicitis in which there is an abscess, great care must be taken first to sponge out all fluids present on opening the cavity. The operation, conducted as usual, is followed by irrigations, the half per cent. salt solution being poured in large quantities into the cavity and thoroughly sponged out afterward. For this purpose ordinary operating sponges on long handles are used, such stimulating enemas as may seem necessary are given afterward, and the wound packed with gauze. In penetrating wounds of the abdomen exploration is necessary. **Monford** reports nineteen cases, all operated upon; three of them, very severe, died. One who died of peritonitis, might have lived had not the physician who first examined him put his finger in the wound for exploration. He reports that of other cases a larger number have recovered on whom he has performed an exploratory operation than when this procedure was elected. Gunshot wounds show a higher mortality than stab wounds as the latter do not generally penetrate the viscera. Of nineteen cases of free hemorrhage into the peritoneum, all died, but in nine of the cases death was not due to the hemorrhage.

It seems to me that in our operations on the intestinal tract, the use of the potato or a similar vegetable substance is more conducive to healthful and quick healing, on account of easy absorption, than is the decalcified bone button used by **Senn**.

TYPHOID ULCER PERFORATION.

The closing of the perforated ulcer in the intestine is now a rational operation. There are now about twenty cases reported that have been operated upon with the recovery of twenty per cent. This operation now in its infancy, with this number of recoveries, ought to make it recognized and practiced by all when necessity demands.

Ricketts, of Cincinnati, lays down fourteen different distinct conclusions which are not only essential but which, if carried out, will materially aid in the recovery of the patient. His article appears in *The Cincinnati Lancet-Clinic*, Number XIV, 1895.

PERITONITIS.

In acute aseptic peritonitis after laparotomy, there is no better remedy than half an ounce of magnesium sulphate given in just enough water to dissolve it, and followed by turpentine, both as an enema and also by mouth. These cases present something different from the ordinary cases met by medical men and treated with opium.

HERNIA.

The year 1895 has seen the radical cure of hernia receive the official approval of the United States War Department, and a late circular from the office of the Adjutant-General of the army states that cases of hernia suitable for an operation should receive surgical treatment, which, by the most approved modern methods, is successful in a large proportion of the cases operated on, and in skillful hands is attended with little risk. Operations for the radical cure of hernia will be performed, with consent of the soldier, by medical officers especially designated by the Surgeon-General of the army.

HEMORRHOIDS.

Radical means have been the order of the day. As for those unoperative cases of internal hemorrhoids when they protrude, bleed, and the patient has great difficulty and pain at each defecation, **Allingham**, of Saint Marks, London, lays great stress on the internal administration of iron and chloride of ammonia, the local application of astringent ointments, and the use of the bougie.

Extirpation of the rectum is not the operation it was thought to be, but inguinal colotomy seems to be more preferable and gives better results, and therefore demands our earnest consideration when backed up by such men as **Kelsey** and **Mathews**.

BILIARY CALCULI.

The fact that we now regard these pathological formations of more frequent occurrence than we formerly thought has led to extended investigations. The etiology, apparently simple, seems, the more we investigate, to be more complex. While almost any foreign body may form a nucleus, there is often no such body to be found. Normal bile with normal surroundings will not solidify; it must first decompose, or at least the contained biliary salts must. In the diagnosis of those cases we must not expect always to find the classical symptoms of biliary colic and jaundice. What is called an infection from gall-stones may occur, and the patient be liable every few days to have severe chills with a high temperature, leading one to think of ague. There are many cases, as **Murphy** and

McGraw have pointed out, characterized only by a recurrent gastralgia. These surgeons consider that a gastralgia occurring every month or two, that is relieved at the end of three or four hours by vomiting, is almost pathognomonic of cholelithiasis. We must also bear in mind the confusion that might arise from the presence of a sarcoma in the rectus muscle, appendicitis, hepatic abscess or nephrohydrosis, especially in our physical examination.

In the way of treatment, medicine has a limited sphere, hot fomentations and a hypodermic of morphine being useful in allaying an attack of colic. Taxis as a surgical procedure is limited. Cholecystostomy is perhaps the most generally beneficial operation, and covers the majority of gall-stone cases. It is sometimes necessary, however, to make a communication between the gall-bladder and the duodenum, especially when the common duct is permanently obstructed, and in cases of perforation of the ductus communis choledochus into the abdominal cavity. Complete removal of the gall-bladder is rarely called for except in cancer of that viscus, or impacted calculi that resist all ordinary means of removal. Performing cholecystenterostomy by means of the Murphy button gives marked and immediate relief. The gall bladder is able to empty itself and thorough communication is made between the biliary and intestinal tracts. Although the symptoms are so remarkably relieved, at least for a time, it seems rather doubtful whether this operation should be frequently performed or not. It is the opinion of many observers that irritations and catarrhal inflammation of the gall-bladder are very apt to follow this operation, and recurrence is by no means unusual. Our object should be to remove the source of irritation, otherwise an exudate inflammation is kept up, and one of the very worst results of these cases is likely to take place, namely, adhesions between the various organs.

Mr. Morrison, in *The British Medical Journal*, pointed out the fact that a pouch exists below the right lobe of the liver and gall-bladder, separated from the general peritoneal cavity, and that this pouch, by a transverse incision through the integument and so down to parts in operations for gall-stone, would be the means by which good drainage could be kept up, and that ultimately a successive closure could be made.

Ferguson, of Chicago, in his extensive investigations of biliary calculi, points out and lays great stress upon the advisability of seeing that the permeability of the cystic and common ducts is certainly ascertained, and he advises this to be tested by the forcing of water through the ducts, and I must agree with Ferguson when he says, in closing one of his able papers, "I, too, wish to enter a plea for early operation for biliary calculi, as these cases are somewhat easy of diagnosis and are easily dealt with in their infancy by cholecystostomy."

FIBROID OF THE UTERUS.

There are now two methods in vogue—electricity and extirpation. Vaginal medication and internal medication are things of the past, excepting where digestive disturbance or constipation, occurring simultaneously, require medicine, or where the occurrence of hemorrhage indicates employment of the tampon. Electricity is advocated, by those who use it, principally for unoperative cases, in which the subjects are weak with some heart hypertrophy, some nephritic trouble, and possibly in which the peritoneal adhesions are extensive. In cases presenting the above symptoms galvanism is recommended by its adherents. It certainly controls the hemorrhage in the majority of those cases, reduces the size of the tumor, relieves the congestion of the uterus and helps stimulate the parts, thereby causing absorption of the adhesions; but it does not always do this, and much valuable time may be lost while great risk is run of bringing in some antiseptic process through injury which may be done with probes or electrodes. In the surgical line proper tying of the ovarian arteries, the removal of appendages, et cetera, is not advocated as much now as formerly; the decision seems to have been arrived at that, when laparotomy is undertaken for fibroid trouble, the complete extirpation of ovaries and uterus is the course. The treatment of the stump in abdominal hysterectomies seems to be settled after many hard fights, and we deal with it according to the conditions. With Martin, of Chicago, I believe in the Baer method of ligating the uterine artery and its branches, and then leaving it to lie in the abdominal cavity.

As to drainage in abdominal work the opinion seems to be to oppose it when possible, and where there is no occasion for drainage to suture the parts and apply dressing. Where there is hemorrhage from oozing surfaces, or secretion from small cysts the drainage of the blood and fluid will help control the hemorrhage. This is not only theoretically true, but it has been practically demonstrated time and again upon those unfortunate ones who have had the hemorrhage continue after operation long enough to prove fatal, and the glass drainage tube is the one now in use. In abdominal work the consensus of opinion is not entirely in favor of the animal suture; silk still has its advocates. Opinion seems to be unevenly divided as to these two classes of materials. Personally, I am in favor of silk—the most popular material—having used it with better success, than I have met with in using catgut and kangaroo tendon.

Hysterectomy of suppurative diseases of the pelvic organs is an acknowledged procedure, and certainly this operation is not more dangerous than double salpingooophorectomy. When we note the combined death-rate to be seven per cent. by such surgeons as Baldy, Kelly, Polk, Bryant, King and Penrose we cannot but say "amen" to this operation. When we remember that the inflammatory pelvic troubles generally start first in the mucous membrane of the uterus, and from here invade adjacent tissues, we must give it as our opinion that it is good surgery to extirpate the uterus. When there is tubercular or malignant disease of the ovaries or the Fallopian tubes, then hysterectomy is to be elected. Some writers have gone so far as to advise extirpation of the uterus and the opening of the abscésses, drainage by gauze, leaving the ovaries and ligaments in situ; but the opinion seems to prevail to remove all. A point in favor of the vaginal route for hysterectomy is that in the vault sutures can be placed and the last step of the operation finished as the patient is coming out of the chloroform.

In the abdominal method the suturing of the walls requires, at times, the patient to be completely under the anesthetic on account of the danger of including omentum, et cetera. Hysterectomy has been advocated in puerperal infection, but lines have not been clearly drawn by which we are to know on what cases to make this operation and which ones to treat otherwise. The curette and douche, and lastly the local application of a ninety-five per cent. solution of carbolic acid thoroughly applied to all the parts of the uterine cavity, is a procedure that is advocated and recognized all over our continent.

When this does not give the results then adopt the expectant plan. From some experience in this line, and reading the literature in the last two years, I would hardly like to say what cases should receive hysterectomy and why. When the tubes and ovaries have been removed the trouble is not always ended, the uterus on account of being pregnated with septic material must be removed. It is a useless membrane at the best, its support is gone and displacement with the sequelæ takes place.

Cancer of the os uteri or even the cervix should be taken care of by hysterectomy and the abdominal method is fast coming to the front in the last year. We claim for it simplicity, quickness, and a ready method by which the adhesions to the omentum and intestines may be handled with definite accuracy.

PARTURIENT CANAL.

As regards recent traumatisms to the uterus where the extent is large and the indications are that with involution the parts will not be kept together, the prevailing opinion is that a suture or two should be so placed as to hold the parts in place.

In the vaginal tract the canal should be repaired soon after delivery if the extent of the injury is enough to warrant the procedure. It is recommended to be done even twenty-four hours afterward, but several days are not to be allowed to intervene. Where the repairing of the perineum is allowed to go beyond this time then the **Tait** operation is to be done. The prevailing opinion is, I think, to use silk sutures. In repairing ulcerations of the cervix the **Emmet** operation is not only practiced but the etiology and the pathological conditions are understood and acknowledged as laid down by him a decade and a half ago.

ECTOPIC GESTATION.

To make a brilliant operation in cases of tubal pregnancy the diagnosis should be made before the rupture. A number of cases of tubal diseases have been operated upon which have been found to be cases of pregnancy. I think it is safer in this class of cases to operate every time; then we avoid the necessity of making a diagnosis between extra- and intraperitoneal. In rupture of the uterus in childbirth, the treatment is to perform abdominal incision—the ordinary Cesarean section, extract the child, deliver the placenta, and wash out the uterine cavity with an antiseptic solution. Suturing of the uterus is to be proceeded with, the abdominal cavity flushed out several times as in ordinary flushing, and the walls sutured.

PUERPERAL SEPTICEMIA.

As to the etiology of this disease, some author has gone to the extreme when stating in *The International Journal of Surgery* that it was caused by the germs of erysipelas, scarlet fever, small-pox, measles, diphtheria, septicemia, and possibly those of other zymotic diseases. He states that the physician, nurse or friends may be carriers of these germs, and asserts that the disease is not caused by colds brought on by draughts, but just simply by lowering the vitality of the patient it may render her more susceptible to the action of the germs. His treatment is rest and surgical cleanliness. This author insists that obstetrics should be regulated by a special law, that the call of the midwife should be abolished, and only those competent to deal with diseases having a bacterial origin should be allowed to practice obstetrics.

KIDNEY.

Such men as **Keyes**, **Tiffany**, **Nitze**, **Kelly**, **Posner**, **Lewin**, and **Ranchoff** have developed surgical procedures in reference to the kidney that are rapidly giving this branch of surgery a foremost place. While they have not developed precise cardinal symptoms in reference to stone in the kidney, yet they have established certain procedures, particularly during the last year, that make tolerably certain the indication for a lumbar incision; at least to make an exploratory incision, by which we may be able, with puncture of the kidney, to demonstrate a stone within. The septic invasion in kidney trouble has not yet been settled; it has been proven that a great many of those cases are developed from lesions below, yet some bear the evidence of being autoinfective. The value of a cystoscopic examination is not to be despised, for although it is not positive in its evidence, yet when examining with the cystoscope and observing from the mouth of one of the ureters a clear stream being ejected, and from the other a turbid stream with few flocculi here and there, the physician should not be in doubt. Upon the other hand, when we remember the past histories of horseshoe kidneys, double ureters, et cetera, an element of uncertainty arises. The history of the past year seems to be decidedly in favor of anchoring all floating kidneys. The diagnosis of renal calculi by the needle will have to be omitted as the last year's work in this direction has shown that it is not a reliable diagnostic procedure. Time after time, brilliant operators, men who are fine manipulators, have failed to locate a stone in the kidney, yet subsequent examinations or the autopsy has proven that they were there.

An antiseptic treatment is the order in all operations upon the kidney, primary union being the ultimate object; with catgut the **Lembert** suture should be used. Incisions in the kidney should be made in the line of the arterial supply. My experimental work has taught me to use a slightly curved round needle, to be careful to follow the needle along the first track and make slight tension upon sutures. The history of exploratory incisions for the relief and diagnosis of kidney trouble has been interesting and varied and it is claimed that from the severing of the lumbar nerves, and incision of the capsule relief is obtained in many of these cases. I think the next year's work will show more of these exploratory incisions for diagnostic purposes.

Cystic degeneration has been more often found in the male than in the female, but no age is exempt; it is found even in the fetus, sometimes causing its premature death. When one kidney is diseased surgical interference is proper; when both, then medical, which is the same as that for granular kidney. In making the diagnosis we must remember that this disease and hydronephrosis echinococcus are generally unilateral, and the exploratory incision is proper.

THE BLADDER AND UTERUS.

With a female patient in the knee-chest position, and an ordinary cystoscope inserted within the urethra, and well within the bladder the condition of the mouths of the ureters can be noted and the fluid that comes from them. Following the rules laid down by **Kelly**, catherization of the ureters and also of the pelvis of the kidney is possible with a little patient practice. Implantation of wounded ureters in the bladder is recommended and practiced. It is a procedure that we ought to be able and ready to do for injury of the ureters either from external causes, or where we injure them in manipulations or in operations.

CYSTITIS.

Cystitis is to be considered in our surgical work not only because it is classed as a surgical disease occurring from many causes, but because we have it sometimes as a complication in cases on which a laparotomy has been performed. When due to calculi cystotomy is now performed for its relief almost exclusively. The perineal operation has been almost entirely superceded by the suprapubic.

It seems that many cases of cystitis are due to infection from the colon. Cases are reported leading to pyelonephritis requiring excision of the kidney in which bacteriological examinations of the urine showed the presence of the colon bacillus. One case was reported with all the symptoms for nephrectomy, performed by **McBurney**, in which a cystitis and a left pyelitis were diagnosed and gave similar pure cultures of the colon bacillus. All these cases recovered after operation.

Among the minor surgical complaints gonorrhea offers as much obstinacy to treatment as ever. There has been no great advancement in our knowledge of this disease since the time when **Ricord** demonstrated the difference between it and syphilis. This is, perhaps, one of our most typical examples of the local action of bacteria, and one would imagine during so much advancement in our knowledge of bacteria that it would be one of the first to be treated. In an ordinary robust individual we generally have merely the anterior urethritis, but in those of a weakened constitution with a nervous temperament we frequently have developed posterior urethritis. In those cases in which there have been previous attacks, chronic urethritis frequently prolongs the conditions. There has been considerable difficulty of diagnosis between urethritis and the so-called pseudourethritis, but the microscope settles the difficulty. Treatment of these cases would be much more satisfactory if we could only pervail on the victims to abstain from alcohol and venery for a few weeks. The recognized treatment at present is to give saline diuretics, such as citrate and bicarbonate of potash, together with cubebs and laxatives, cut off stimulants from the diet and have the patient wear a suspensory bandage and rest in bed if possible. Injections may be used of the mildest form, such as zinc or lead in rose water, one grain to the ounce, or weak solutions of bichloride or nitrate of silver. The most satisfactory treatment I find to be injections of hot solutions of boric acid, irrigations commenced early. A fountain syringe, elevated about two feet, contains the solution carried by a soft rubber tube, bearing at the end a glass tube annointed with vaseline. The tube is slowly introduced about an inch, the hot boric acid solution permitted to flow until the way is clear and then slowly pushed down to the posterior urethra, and may even enter the bladder. These irrigations may be repeated daily, and when there is any irritation, to be followed by a weak injection of a solution of zinc and morphine. In the case of posterior urethritis the injections must be forced beyond the contractor muscle. Suppositories of morphine and belladonna have frequently to be used. The treatment of strictures gives best results under the gradual dilatation method, especially when the stricture is soft or yielding.

HYDROCELE.

Hawley, of Burlington, Vermont, advocates the ordinary radical incision, the stitching of the tunic to the integument, irrigation of sac, irritation with finger tips, and closely packed for a day or so, and cavity walls kept in apposition by adhesive strips.

JOINT TROUBLES.

In all joint troubles the diagnosis is of the first and greatest importance. The treatment is first, last and always, rest; but when, from extensive tubercular or traumatic lesion, it is necessary to resort to surgical interference, the procedure outlined by **Willard** in his paper before the American Medical Association, at Baltimore, Maryland, is to be recommended. **Professor Willard** divided the subject into erasion, excision, and amputation. By erasion, we are advised with the gouge, spoon and scissors to remove the diseased foci from the tarsus, carpus or other location, and to repeat this several times if necessary, being careful not to reach the osseous structure beyond the cartilage as this soon necroses and so spreads the disease.

It is better to reach normal bone if possible, but we must remember that subsequent manipulations may be undertaken and that the tissue will take care of a certain number of cells by phagocytosis, and we may hope by the injection of antitoxins to eradicate the trouble. Excision or resection is more radical than erasion and is the removal of the diseased portion, where it is the articular surface, by saw and chisel, where erasion is not practical, and where it is desirable to save the limb from amputation. It is generally practiced upon the wrist and ankle. Amputation is practiced where there is considerable joint complication and is resorted to more often upon the adult. The knee, hip, elbow, and the shoulder are the joints affected.

GENERAL.

Early diagnosis in such diseases as osteomyelitis, carcinoma, sarcoma and lupus should be our constant endeavor.

TUBERCULOSIS.

When this disease manifests itself locally, either in the joints or in the glands, the proper procedure is to cut down to the infected area, curette it, wash it out and dress it according to all those rules which we know too well. I predict that medicine will not meet the requirements of this all dreaded foe, when it has invaded the pulmonary tissue, but that the surgeon will delve to the parts around which the bacilli tuberculosis is located, and by means which we are not now cognizant of be able to eradicate the disease and to assure the stricken patient that there is yet life and hope.

GUNSHOT WOUNDS.

The predominance of opinion is much in favor of conservative methods in locating and extracting bullets, especially where there are no complications, as injury of bone or internal viscera.

The modern conical steel bullets will somewhat modify the treatment as laid down for locating and extracting the same from the body. The telephone probe that did not meet the emergency of PRESIDENT GARFIELD's case is not the goal upon which to anchor all our expectations when we hoped to have found a proof probe. The NELATON probe has been used in a great many cases reported the last year and by those that have experience in this line of surgery. Certainly the telephone probe should be used when its application is so simple as KAUFFMANN has shown it to be; a spoon in the mouth and an improvised probe of telephonic connections will bring positive results.

Military surgery of the future is considerably speculative as the nature of the bullets, the facilities for rapid firing, the smokeless powder, the improved methods of surgery all will require to be used in active experience before we have any data. Among these we must not forget the X ray which has just come to the notice of scientific men.

AMPUTATIONS.

The apposition of homologous tissue has again demanded the surgeon's attention and is a requirement to be met. Little drainage is required where unbroken surface has been dealt with, as MUDDMAN's list of seventy-eight different species of cutaneous bacteria are but waiting for the road of ingress. Sterilized water makes the best irrigation, the wanton irrigations with some chemic antiseptic is a bygone procedure, and the blood is not so much feared as of yore, and we now expect it to furnish bactericidal properties.

A simple sterilized normal salt solution is being much used of late. The solution can be kept in sterile glass bottles and used at will.

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ORIGINAL CONTRIBUTIONS.

MEMOIRS.

PUERPERAL ECLAMPSIA; REPORT OF EIGHT CASES.*

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[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

IT is not my intention to enter into a discussion of the etiology, pathology, or prophylactic treatment of puerperal eclampsia; but simply to report briefly eight cases which have occurred in my practice, and to make a few remarks upon the treatment of such cases.

CASE I was a multipara, aged forty-two years, with a history of kidney disease and a so-called abscess of the lung of several years standing. Her labor was of short duration and unattended by any complication. She had been under my care for about a month for albuminuria and dropsy; but I was so pleased that no convulsions occurred during the labor that I paid no attention to the severe headache which the patient complained of at its termination. As it was my first case of confinement, thirteen years ago, and the second I had ever seen, perhaps my stupidity was somewhat excusable. Three hours later I found her in the third convulsion. The treatment consisted in the administration of chloroform, morphia, bromide and chloral. She had but one convulsion after my arrival. But this is not strange when it is considered that she received one grain of morphia hypodermically, thirty grains of bromide, and twenty grains of chloral within the space of one-half hour. She did not regain consciousness, and died in thirty-six hours. The infant survived.

CASE II was a vigorous primipara, eighteen years of age, in the ninth month of pregnancy. She began having spasms at 6 A. M., and was unconscious at 9 P. M., when I first saw her. I gave her bromide and chloral every two hours, and several doses of compound jalap powder which produced several watery stools before morning. She also received pilocarpine hypodermically, and was wrapped up in hot wet sheets every fifteen minutes until free perspiration was excited. Towards morning her condition improved, and I inserted a catheter between the uterus and membranes to induce labor. On returning at noon I found her general condition about the same. Uterine contractions had begun, so I ruptured the membranes and at 5 o'clock delivered a dead child with forceps. Soon after this she regained consciousness sufficiently to speak when addressed, but her improvement was temporary and she died in forty-eight hours. Had I treated this woman surgically instead of medically, and delivered her soon after I first saw her, I have no doubt her life would have been saved.

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*Read before the MICHIGAN STATE MEDICAL SOCIETY, at Mount Clemens.

Case III was also a primipara, aged eighteen years, who began having convulsions at 2 A. M., and was unconscious at 11:15 A. M., when I was called to see her. I gave her one-half grain of morphia hypodermically, and as she was very stout and plethoric, removed eight ounces of blood from the median cephalic vein. At 11:25 she had another spasm. At 11:30 I injected thirty grains each of chloral and bromide into the rectum, and wrapped her in hot sheets to excite perspiration. At 12:20 she had another spasm. At 2:30 I repeated the enema of chloral and potassium bromide, and the os being partly dilated ruptured the membranes and extracted the child, dead, with forceps. This patient was so insensible that she did not notice the operation and died at 4 o'clock. This case was hopeless when I first saw her.

Case IV was a primipara, aged eighteen years, in the ninth month. She awoke at 2 o'clock at night with a violent headache which increased in severity until 3 P. M. when I was called. Her face and extremities were much bloated, and while talking to me she was seized with a convulsion. Upon regaining consciousness at 3:10 she was given thirty grains each of chloral and bromide of potash and one-eighth grain of elaterium. At 4:10 I repeated the chloral and bromide, and at 4:40 gave her one-eighth grain of pilocarpine hypodermically and a hot air bath, which measures were followed by profuse perspiration. Her head now felt much better. I ordered a continuance of the chloral and bromide every three or four hours and also several one-half grain powders of calomel. The next morning she was quite comfortable. Her bowels had moved twice and her headache had disappeared. She was directed to drink freely of cream of tartar lemonade, to take enough compound jalap powder to procure one or two fluid evacuations a day, and to take digitalis until the amount of urine passed a day approached the normal. At the end of a week I attended her in labor, which was normal in every respect. The baby was well developed and healthy. Convalescence was uninterrupted.

Case V was a multipara, aged twenty years. She had been in labor several hours, and had one convulsion a few minutes before I saw her. I put her under chloroform, and as the child's head was low and the os well dilated I ruptured the membranes. As the pains continued strong, forceps were not resorted to and a healthy baby was soon born, the mother being kept slightly under the influence of the anesthetic. The puerperium was uneventful.

Case VI was a multipara, aged twenty-eight years. Labor began at 6 A. M., soon after which I was called. At 8:30 the baby was born without any complication. At 12:30 without any premonitory symptoms she was seized with a convulsion and was unconscious when I arrived on the scene at 1 o'clock. I gave the patient one-third grain of morphia hypodermically, and as she was a very plethoric woman, and had lost but little blood during labor, I thought vivisection was indicated and called Doctor Lupinski to assist me. I then put the patient under chloroform while the doctor opened the median cephalic vein and removed one pint of blood. The patient recovered consciousness the following morning and made a rapid recovery, my last call being made on the fourth day.

Case VII was a primipara, aged twenty-four years, seen in consultation with Doctor Marvin. She had been in labor several hours and had one convulsion a few minutes before I saw her. We gave her one-quarter grain of morphia hypodermically, which was followed in ten minutes by another spasm. We then put her under chloroform and on internal examination found that the child's head had passed the pelvic inlet, the sagittal suture being in the right oblique diameter with the small fontanelle to the front. The cervix was dilated to the size of the palm of the hand. I therefore ruptured the membranes and with some difficulty delivered the child with forceps. It was deeply asphyxiated, and was resuscitated only after several minutes' use of hot and cold baths and artificial respiration. It remained quite feeble and died on the eighth day. The mother made a rapid recovery.

Case VIII was a multipara, aged twenty-four years, whom I saw in consultation with Doctor Penwarden. She had her first convulsion at 1 o'clock P. M., and another fifteen or twenty minutes later, after which she remained unconscious until after delivery. We gave her one-quarter grain of morphia hypodermically and at 3 o'clock put her under the influence of chloroform; pulse 100, temperature not taken. External examination showed that the fundus was midway between the umbilicus and the pit of the stomach; the child's back was to the right; small parts to the left and forwards; head movable over the pelvic inlet; fetal heart beat midway between the umbilicus and anterior superior spine of the ilium and 140 to the minute. After careful cleansing and disinfection of our hands and the external genitals of the patient she was examined internally for the first time. The vagina was wide, mucous membrane smooth; cervix high and open to the finger; water not escaped; head movable above the pelvic brim; sagittal suture almost transverse; small fontanelle to the right and somewhat posterior; large fontanelle not felt. Diagnosis: End of ninth month of pregnancy, right occipito-posterior position, labor not yet begun. The patient's husband stated that she was expecting labor to set in at any time. It was decided that her interests demanded immediate delivery, and that the only way to accomplish this with safety to the mother was by performing craniotomy. After sterilizing the instruments by boiling them fifteen minutes in soda solution, the vulva was shaved and the external genitals and surrounding parts again washed and disinfected. Great care was taken that no water entered the vagina, and no vaginal douche of any kind was used. While the head of the child was firmly pressed against the pelvic brim through the abdominal walls by Doctor Penwarden I passed the perforator through the posterior fontanelle and moved it about freely to break up and remove the brain-mass as thoroughly as possible and thus allow complete collapse of the cranial walls. The smaller blade of Braun's cranioclast was then introduced into the perforated skull and the larger placed over the occiput. To avoid lacerating the cervix an incision was made into it with scissors extending about half way to the vaginal junction. The head was then slowly and without much difficulty extracted. The placenta was expressed in about twenty minutes and two syringefuls of ergot given hypodermically. The uterus contracted well and no hemorrhage followed the operation. The cervical canal and vaginal vault were irrigated with a small amount of water to remove a little loose brain substance, but nothing else in the nature of a vaginal douche was used at any time. The after-treatment of the case was conducted by DOCTOR PENWARDEN and consisted mainly in the use of salts and chloral. The patient made an uninterrupted recovery. The lochia were normal in amount and free from odor. The highest temperature was 100°. This was reached on the third or fourth day when the patient was troubled some with mammary turgescence. The evening temperature did not exceed 99° at any time.

Puerperal eclampsia is a dangerous disease whose mortality is variously estimated at from twenty to forty per cent. for the mothers, and fifty to seventy-seven per cent. for the children. The prognosis is worse in multiparæ than in primiparæ and is most unfavorable when the convulsions occur in the last month of pregnancy, before the onset of labor. Some of these cases die undelivered. In the great majority of cases, however, the convulsions begin during labor and the earlier they occur the worse the prognosis. The statistics of LOHLEIN show that of eighty-three cases in which the first spasm occurred before or during the first stage of labor forty and one-half per cent. died. Of fifteen cases where the first stage was completed before the onset of convulsions only one died. Eclampsia which develops first in childbed usually runs a favorable course.

When these facts are considered, and also that after operative emptying of the uterus, under deep narcosis, the convulsions cease in ninety-three per cent. of the cases, I am warranted in asserting that, as a rule, the principal indication in puerperal eclampsia is to deliver the woman. If this can be done with safety to the child, well and good. If not, for the sake of the mother we are justified in utterly disregarding the child, the same as we do in placenta previa.

One must not, of course, follow this rule blindly, as some infants would thereby be needlessly sacrificed. One must individualize to a certain extent. The heart of the woman is the best index of her condition. If the pulse is but 70 or 80 and the patient conscious between the spasms, the case may often be conducted to a favorable termination with the aid of chloroform, morphia, chloral, et cetera, as was done in my fourth case. With a pulse of 100, active treatment is necessary. Do not put off the delivery for hour after hour and waste time with anodynes, but proceed to deliver the woman as soon as possible. When the pulse is 120 to 140, the prognosis is bad whatever the treatment.

The indications, therefore, in a case of puerperal eclampsia, are—

(1) To deliver the woman as speedily as possible. The obstetrician must be the judge of the particular procedure to be employed in a given case. Barnes' bags, the colpeurynter, manual dilatation of the cervix, Duhrssen's multiple incisions, forceps, version, perforation and Cesarean section have each their sphere of usefulness. Symphyseotomy is not to be thought of in any case. Personally, I do not think it would be right to subject a young or middle-aged eclamptic with a normal pelvis to the dangers of a Cesarean section, as, with good health, she would probably soon again become pregnant, when, with or without suitable prophylactic treatment, the convulsions would not be likely to recur. KALTENBACH, however, believes that Cesarean section early in eclampsia is preferable to the forcible extraction of a child after deep incisions through the cervix and vaginal vault.

(2) To suppress the attacks with chloroform, large doses of morphia hypodermically, or chloral by the rectum. **Zweifel** gave chloroform continuously for twelve hours in one case which terminated in recovery. To get the best results from chloroform, it should be given until delivery is accomplished or the child is dead. In the latter case, with an imperfectly dilated os, craniotomy should be performed. **Leopold** and others object to the employment of chloroform in eclampsia on the ground that it adds to the blood intoxication already present and leads to acute fatty degeneration of the heart. On account of this depressing effect upon the circulation **Zweifel** uses ether. **Veit** has given as much as thirty grains of morphia subcutaneously within seven hours in a successful case; and **Winckel** has used one-half ounce of chloral per rectum within twenty-four hours. But these drugs must be used very carefully. **Kaltenbach** has seen one and one-fifth grains of morphia distributed over six hours produce symptoms of narcotic poisoning; nor was a fatal termination of the case averted.

(3) To stimulate the skin to activity by warm baths of 100° to 110° of twenty minutes' duration; and the bowels by drastic cathartics as compound jalap powder or elaterium.

I wish to call attention, in closing, to the great necessity of asepticism in treating puerperal eclampsia. These cases are particularly prone to septic infection on account of the larger number of internal examinations usually made to determine the progress of the birth, and because of the severe lacerations which often follow the accouchement force used to hasten delivery. No internal examination should be made before disinfecting thoroughly the external genitals of the woman and the hands of the obstetrician; and no vaginal douche of any kind should be used. The vaginal secretion of a pregnant woman is a powerful antiseptic and disinfecting agent. The employment of antiseptic vaginal injections, before or during labor, with a view of sterilizing the vagina is not only useless but positively harmful.

AUTOINTOXICATION IN DISEASES OF THE EYE.*

By DON M. CAMPBELL, M. D., L. R. C. S. (Edinburg), Detroit, Michigan.

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You and I, Mr. President, as well as every member of this great association, now within hearing of my voice, must have been greatly interested in the progress of medicine and surgery during the last two or three decades. We have followed its rapidly changing and always advancing strides with absorbing interest, recognizing in the shifting aspect of things medical, a kaleidoscopic variety not lacking in brilliancy of effort and glory of achievement. Anesthetics and antiseptics, both local and general, have rendered daring advances in medicine and surgery practicable.

Not least interesting nor least productive of good have been the researches of histologists, physiologists and pathologists, these experimentalists having given us some of the real though silently achieved advances of modern times, and upon the results of their labors as a scientific foundation have been reared many of the startling and brilliant advances of modern operative surgery and practical therapeutics. Perhaps one of the most interesting class of experimentalists are those who have investigated the human body in health and disease, not stopping at the anatomical or histological elements of the tissues, but pushing their investigations with patient zeal and honesty into every organ, tissue, fluid, excretion and secretion. To this list belong such names as **Koch**, of Germany, **Bouchard** and **Pasteur**, of France, and a score of others equally as conscientious and equally as devoted.

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* Read before the Michigan State Medical Society, at Mount Clemens.

I wish at this early stage to acknowledge **Bouchard**'s excellent work on "Autointoxication" as the source of much of my information bearing upon the experimental and general aspects of this subject.

By autointoxication is meant the poisoning of the individual by toxic substance formed and elaborated within his own organism. The accumulation of these poisons in the organism may be due to their over- or too rapid production in the tissues, their too rapid absorption from the alimentary canal, or their too slow or inefficient elimination from the organism by means of the various emunctories, namely, the skin, the bowels, the lungs and the kidneys, the latter emunctory being perhaps the most important of all.

We are consequently led in our investigation of these cases to inquire carefully into the condition of all four functions.

Having pushed our investigations in all these four directions we now turn our attention to the *sources* of the poisons by which the organism is being intoxicated and we find them emanating from four directions, namely, (1) Disassimilation, constantly going on in all the tissues. (2) Secretions, such as the bile and the intestinal juices. (3) Absorption from intestinal putrefaction. (4) Poisons introduced into the organism with the daily food and afterward multiplied and elaborated within the intestinal tube and absorbed therefrom.

It is shown by these investigations that the organism is constantly elaborating these poisons which if retained would surely be fatal to its integrity, but nature in her wisdom has built up and developed organs to meet and counterbalance these effects, so we find the various emunctories ready day and night to eliminate the products of disassimilation. The skin, the lung, the kidney and the bowel are constantly eliminating these poisons as quickly as they are formed.

In addition to the emunctories the liver stands always ready to intercept and destroy many poisons absorbed from the alimentary canal. In this connection one cannot but be forcibly struck with the fact that the modern investigation along these lines has confirmed and rendered scientific many empirical therapeutic procedures employed by our forefathers in the profession. Many in this hall today have a very vivid recollection of the stock in trade of the old family doctor who, God bless him, was a terror to our young hearts and a solace to the more experienced ones of our mothers, anxious for our welfares.

His panacea for all ills was a mercurial at night and a saline in the morning, and with what satisfaction he would watch our ill-natured grimace at the noxious dose, knowing full well that our headache, fever, anorexia, sleeplessness, and general malaise would be improved when the intestinal tube was emptied of its putrefying contents. While this plan of treatment was entirely empirical with the old family doctor modern research has shown it to be eminently scientific, for by what better means can you expel the putrefying masses loaded with bacteria and their poisonous alkaloids than the means which he employed? Or can we with our more modern and more elegant system of therapeusis obtain a quicker or more thorough sterilization of the intestinal tube than he with his methods? The history of advanced medicine bristles with many such interesting examples. It has been conclusively shown that almost, or quite all, the tissues of the body suffer inflammatory reaction in the event of autointoxication by the poisons produced as above indicated.

In some forms of poisoning it is the nervous system which suffers most, in some the vascular, and in still others the fibrous tissues of the body are the chief seat of the inflammatory reaction.

It would perhaps be a waste of valuable time for me to discuss, even briefly, all the effects of autointoxication or autoinfection noticeable in the eye. The various effects upon the lids, upon the conjunctiva and the cornea, of digestive autointoxication have been gone over again and again. Diabetic cataract, rheumatic iritis, and the various affections of the choroid are quite familiar in this connection, as are also the dire results of the interference with the renal functions upon the retinal and optic nerve elements. But there is one class of cases involving the sclerotic coat, the ciliary body, and the iris which should demand a careful and painstaking investigation. Embraced under this head are such diseases as episcleritis, scleritis, cyclitis and relapsing or recurring iritis. Episcleritis and scleritis I have already dealt with in a paper read before this association some two years ago, entitled "Some Rheumatic Affections of the Eye." The added experience of two or three years of actual practice has not changed my views on the subjects.

I wish, however, to draw your very particular attention to relapsing or recurring cyclitis, iridocyclitis, and iritis. In this disease we have a pathological condition of the tissues of the iris and the elements situated at its base extending frequently into the sclerotic coat and episcleral tissue.

The clinical history of a typical case of recurring iritis shows clearly enough that the real origin of the ocular trouble is not in the eye itself but must be sought elsewhere.

Many of the cases present permanent posterior synechia, left from previous attacks, which have by some been looked upon as the prime cause of the recurrence of the inflammation, hence many irridectomies have been done for the cure of the trouble, but two facts well known to all close observers would indicate that such is not the case. (1) Many cases of simple iritis leave behind them one, two or more posterior synechia and yet we never have a recurrence of the iritis. (2) There have been many cases of recurring iritis with posterior synechia upon which iridectomies have been performed, and yet the iritis recurs just the same.

I have in mind an interesting case bearing upon this subject. This patient has been subject to recurring iritis for many years, in both eyes. The right iris is quite firmly bound down by posterior synechia; the left one is perfectly free, yet for the last two or three years he has had no attacks of iritis in the right eye, all the trouble now being confined to the left eye in which the iris is perfectly free.

If, now, we observe our patient, not his eye, in short, be a physician, not merely an *oculist*, we will find that there are other symptoms of general derangement occurring not only at the time of the attack but previous to it, and in general terms those symptoms will be somewhat as follows: General malaise, anorexia, inaptitude for work, constipation, indigestion, a coated tongue, a foul breath, a cold clammy skin, nervous irritability and an anomalous urinary secretion.

This train of symptoms suggests strongly to our minds what has been said about autointoxication in the early part of this brief paper and undeniably if we do but seek diligently for our symptoms of autointoxication in these cases of recurring iritis we will certainly find them, and they almost always can be traced to a defective physiology of the alimentary canal and in many cases to an intestinal putrefactive process either with or without dilatation of the stomach.

The manner in which this result is brought about is somewhat as follows: An anomalous digestive process takes place in the alimentary canal which gives rise to putrefactive changes; poisons are elaborated which are absorbed into the portal circulation, pass through the liver where many are destroyed, some thrown back with the bile into the intestinal tube and eliminated, the remainder pass into the general circulation and in the normal state are eliminated by the various emunctories.

If, now, for any reason, the balance between these various factors be disturbed; if, for instance, more poisons be elaborated and absorbed than the liver or the emunctories can take care of or the latter be derelict in their duties the individual becomes at once the subject of an autointoxication if poisons be absorbed or an autoinfection if microbes enter his circulation and the delicate anatomical and histological elements entering into the formation of the eye suffer along with the other tissues.

With this view of the situation before us how picayune do our efforts at local treatment and surgical interference appear with reference to preventing the recurrences. To prevent recurrence we must strike deeper than the eye itself, in short we must search for the original cause of the autointoxication if we are to permanently benefit our patient.

The practical outcome of all this investigation is seen in the manner in which we treat these cases, for we are no longer satisfied with local treatment alone, after the trouble has again manifested itself by a fresh exacerbation.

While we cannot lay down hard and fast rules for the management of all the cases, certain general fundamental principles may be enunciated with advantage, always, of course, with the proviso that each and every case must be a law unto itself and the subject of a close and scrutinizing examination into all the bodily functions.

The alimentary canal should be investigated and any anomalous condition be thoroughly corrected and the tube kept functionally active and free from putrefaction.

The liver should receive as much attention as may be necessary, general hygiene and diet carefully looked into, and lastly all the emunctories kept active. The skin and the kidneys are particularly to be kept in mind. We have at our very doors here in Michigan a means of greatly helping these individuals suffering from autoinfection or autointoxication. I refer to the mineral bath with massage as carried out in the various bath houses of Mount Clemens. The baths act in two ways. Firstly, they stimulate the function of the skin as an emunctory; and secondly, the nervous system is stimulated through the effect of the massage upon the vast number of nervous filaments distributed to the skin.

The effect of general electrical stimulation might be of advantage in stimulating the functions of nutrition.

The kidney should be kept functionally active as in it we recognize one of the chief emunctory organs.

There is a form of treatment employed by certain German ophthalmologists which consists in sending these patients to a watering place, giving them mineral baths with massage, and a daily hypodermic injection of potassium iodide and biniodide of mercury. In the latter procedure the object aimed at seems to be a general systemic antiseptic saturation.

51 FORT STREET, WEST.

THE PROCESS OF REPAIR IN THE PERITONEUM.*

BY C. G. DARLING, M. D., ANN ARBOR, MICHIGAN.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY.]

THERE was a time, not quite one hundred years ago, when the surgeon treated the peritoneum with great respect. He approached its precincts with misgivings which foreboded a fatal result. All operations involving the neighborhood of this membrane were designed to preserve its continuity, and the abdomen was never opened unless death appeared imminent, and rarely even under such a serious condition.

Today we note a change. The surgeon treats the peritoneum with great familiarity, yea, almost contempt. He demands that it shall help him in repairing all neighboring injuries or wounds, and holds it guilty of neglect of duty if it fails to take care of all germs, which he may, by chance, introduce. He maintains that upon certain occasions the peritoneum can manufacture a good antiseptic fluid capable of destroying a limited number of germs. If the contents of the intestines, the gall-bladder or a tumor comes in contact with its surface, he shows little anxiety, but washes it carefully with sterilized water, trusting that it will take care of the few remaining germs and destroy them. Even the presence of blood upon the surface, or in the cavity, which interferes so much with the healing process in other parts of the body, receives but a passing notice. The peritoneum will take care of that. It must also direct attention to the enormous pedicles, countless ligatures, and at the same time repair all wounds, furnishing just enough material for repair and no more.

Now, the peritoneum does not furnish material in the same quantity, or repair damages with the same promptness in all parts, but we are beginning to give some attention to the conditions which favor early repair without forming unnecessary and dangerous adhesions. "The American System of Gynecology," which represents the opinions of many eminent writers, contains the following statement concerning peritonitis: "In the fibrinous form, should two opposing surfaces touch each other they will almost certainly become adherent until such time, at least, when the lymph becomes absorbed; if it does not disappear finally by absorption permanent adhesion will result more or less well organized, in accordance with the original amount of lymph excreted and the activity of proliferation of the underlying endothelial cells of the serous membrane." SENN, in his work called "Experimental Surgery," gives as a result of his experiments upon animals that in all cases of coaptation of intestinal surfaces, union and vascularization were more complete when the parts were scarified, and that in all cases where complete coaptation was performed by means of the bone plates the endothelium was destroyed in eighteen hours.

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* Read before the MICHIGAN STATE MEDICAL SOCIETY, at Mount Clemens.

Here is clearly a difference of opinion as to the source of the cells concerned in the process of repair, if the adhesion following inflammation can be looked upon as new tissue. Certainly in many cases the endothelial cells are not necessary to the process as union can take place without them. SENN's experiments show that repair takes place more promptly where the endothelial cells have been removed, hence we may well look to some other source for the cells which form the new tissue. PIERSOL, on page 130, of his work on "Histology," states "that in normal serous membrane connective tissue cells are frequently seen with processes extending between the endothelial plates of the free surface." This indicates quite clearly the source from which new cells for repair may be derived.

Some months ago DOCTOR G. C. HUBER and myself began a series of experiments to determine how repair in the peritoneum and union of serous surfaces takes place. While a large number of fine microscopical specimens have been made, yet the work is far from completion. Enough, however, has been done to warrant the statement that in the process of repair where the surfaces are coaptated the endothelial cells are first destroyed and union then takes place by proliferation of connective tissue cells beneath. The surprising rapidity with which the peritoneum takes the first steps in the process of repair may be seen after inguinal colotomy where the surface may be examined frequently without special danger to the patient. In ten to twelve hours an exudate is seen covering the stitches, which in many places extends at least one-quarter of an inch from them; soon new blood-vessels begin to form from the surrounding blood supply, which at the end of the seventh day are so well organized that any attempt to raise the exudate from the peritoneum will bring to view minute bleeding points, indicating clearly that the small newly-formed vessels have been broken. The same change probably takes place within the abdomen.

If this be the true process by which new cell growth in the peritoneum begins, every effort should be made to retain the integrity of the endothelium and reduce to a minimum those points where it is or must be removed. On one occasion fluid was introduced into the cavity of the abdomen with great caution, only sponges being used to cleanse the parts, and it was found that much use of the sponge injured the endothelium and adhesion followed. At first antiseptic solutions were used but they caused irritation and in some instances fatal poisoning, but now all of these have been discarded for sterilized water and normal saline solution, with gratifying results. We have gone a step farther than using them for cleansing purposes alone, and claim that they will mechanically aid in unfolding the coils of intestines and floating the omentum so that adhesions taking place may find the parts as nearly as possible in their normal position. When there is great shock the solution may be used very warm with much benefit to the patient and no disadvantage to the healing process.

A quart of hot normal saline solution was put into the abdomen of a dog, weighing forty-five pounds, after operation, and the wound sutured so that none of it might be lost by drainage. Four days later a postmortem showed that the fluid was entirely absorbed and the process of repair in no wise affected. Iodoform has long been in favor in abdominal surgery, not only to check hemorrhage where the surface has lost its epithelium but to hasten the process of healing. Hydrogen peroxide has been favorably received by some operators who are of the opinion that it should not remain long in contact with the tissues. DOCTOR W. E. PORTER, of New York, believes that the normal saline is the best solution for removing it, and that immediate application after the use of hydrogen peroxide prevents loss of endothelial cells and the formation of adhesions.

Nature frequently resorts to the use of the process of repair in shutting off the abdominal cavity proper from the infected portion, as in appendicitis or localized tubercular peritonitis. When we open the cavity and come in contact with an abscess or some septic condition we assist nature in her effort by inserting a Mikulicz drain which keeps the coils of the intestines lying against it at rest, drains away the serum, and favors the deposit of lymph at a point where it is most needed.

SENN has demonstrated that the omentum might be brought to our aid in repairing damages to the peritoneum. Little, however, has been done except to place it between the intestines and the incision to prevent them from becoming attached to the abdominal wall. How soon will we be transferring parts of it to such points of the peritoneum as need to be strengthened or repaired? Sometimes the repairing power of the peritoneum may be impaired as by the continued pressure of a truss. In the operation for the radical cure of inguinal hernia the process of repair is aided by passing the "purse-string" ligature through the sac at a point where proliferation of tissue should be most abundant. Scarifying the inner side of the sac at this point might be of service in promoting firm union.

When ventral hernia follows operations the muscle or connective tissue layers may separate, but union of the peritoneum remains complete. Abscess may form in the abdominal incision but pus never gets into the cavity. The suture with which the peritoneum was closed may be infected and an abscess formed, but quickly opened, the thread may be discharged and no pus reach the cavity. The union is not only complete but is a barrier through which the germs of suppuration do not pass. No other newly-formed tissue has the power of resisting germs to such a great extent.

The only way in which germs seem to be able to pass the barrier of repair is by pressure or sudden perforation. The pus formed in appendicitis does not reach the general cavity without mechanically pushing a way through the new wall. Operations upon the gall-bladder, stomach, and intestines are not followed by infection because their contents are passed at the point of suture.

Postmortem examination of forty dogs, upon which intestinal anastomosis was performed in the surgical laboratory, showed that in all cases in which fatal infection came from the intestine there was obstruction and distension of the gut until the new-formed tissue was torn and the contents of the bowel were suddenly allowed to enter the cavity. In other cases pressure or interference with the circulation caused gangrene and a softening of the tissues through which germs could enter.

We have still many things to learn about abdominal surgery, and not the least of these is the process of repair. A few thoughts may have been suggested by this paper but I have little true light to throw upon the subject.

THE STUDY OF CRIME AND DEGENERATION FROM A MEDICAL STANDPOINT.*

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MY object in presenting this paper is not to offer anything distinctly new or to favor any preconceived theory; but rather to bring together certain facts from various sources and to draw such conclusions as the facts would seem to warrant.

We must assume for the purpose of our study that mental acts have a physical basis.

Since the days of FERRIER, whose experiments confirmed the works of FRITSCH and HITZIG, of Berlin, the localization of brain functions has been well established. It has come gradually to be acknowledged, with the accumulated evidence derived from the study of the lower animals and man, both in health and disease, that all of our mental acts have a physical basis, in the sense that mentality is accompanied by a chemical change and a structural rearrangement of the molecules of the nerve cells. HODGES, in the study of fatigue, found an actual change in the brain cells following activity, that disappeared after a period of rest.

There are some who do not believe in this newer physiology; but the evidence derived from competent observers seems to warrant us in accepting this doctrine as the most rational explanation. It was formerly believed that our passions, such as hatred, love, fear, and the like, as well as reason, were confined to man; but the study of the works of ROMANES, LUBBOCK, DARWIN and many others convinces us that these qualities are common to the lower animals.

It is now generally accepted that the mental acts of animals, children and adults differ not in kind but only in degree; that the same laws that govern our minds govern those of animals; and that similar chemical and molecular changes take place in the brains of both men and animals. If these facts are true, the study of crime and degeneration has a new interest; and much can be gleaned from the psychological study of animals and man.

The study of criminals and degenerates has been mainly along two lines: first, the somatic or bodily anomalies; second, the psychological peculiarities. LOMBROSO was the first scientist systematically to study the physical peculiarities of degenerates, and his tabulations of the various measurements of criminals and the insane form an interesting study.

It would seem from the study of the writing of the Italian school that abnormalities in general, and those of the head in particular, were more common in criminals than in normal individuals. The cephalic indices are greater, the prognathous jaw, and the atypical or projecting ears more common than in the normal.

The committee appointed by the British Medical Association to investigate the development and condition of the mind among school children found that ear defects were frequently associated with nerve defects and mental weakness. DOCTOR LANGDON DOWN finds a resemblance between feeble-minded children and the various ethnic types of the human family, especially the Mongolian and Negroid.

However attractive statistics and measurements may be, we must not forget the importance of racial characteristics, the effect of diseases both prenatal and postnatal on the physical development of the individual. It is also important to remember that apparently normal persons may frequently have one or more of these degenerative marks. It would seem that one is justified in concluding, after taking all facts into consideration, and from the study of a large number of cases, that the criminal, the insane, the idiot, and the feeble-minded have physical anomalies oftener and more highly developed than normal individuals.

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* Read by title before the MICHIGAN STATE MEDICAL SOCIETY, at Mount Clemens.

The more recent studies of criminology have been along a psychological line, rather than by the observation of the purely physical anomalies. It is as impossible to define sharply the limits between a normal and an insane or a criminal person as it is to understand accurately the difference between the diseased and the healthy action of cells.

As **MAX NORDAU** says: "The difference between disease and health is not one of kind, but of quantity. There is only one kind of vital activity of the cells and of the cell systems or organs. It is the same in disease and in health. It is sometimes accelerated and sometimes retarded, and when this deviation from the rule is detrimental to the ends of the whole organism, we call it disease."

So it may be said with criminals, it is impossible to define the limits separating normal from degenerate persons. All mental processes are governed by the same laws, and all of us have at some time in our existence criminal tendencies; but it is only when our evil propensities become detrimental to the community in which we live that we are considered criminal.

Let us consider the evolution of crime, in order that we may rid ourselves of the idea that those acts which we are accustomed to call criminal are confined to the human species. Animals low in the scale of life are prone to commit such criminal acts as infanticide, murder and thieving. Snakes very often devour their young. **LUBBOCK** cites instances where bees and ants kill those of other species for the purpose of robbery. **ROMANES**, in his "Animal Intelligence," gives any number of instances of crime committed by animals. Speaking of a certain species of ants, he says, judging from experiments, it would seem that hatred was a stronger passion than affection, while in other species sympathy and affection seem to be more highly developed. **ANDUBON** is reported as having observed the thieving propensities of birds. Many species are habitual thieves and often secrete articles apparently of no value to themselves. The tendency to steal and to hide things is one of the strongest traits of the wolverine. Rats, mice, wolves, rabbits and birds have been seen to kill those of their own species. Dogs have been known to slip their collars, and go miles to kill sheep, then wash the blood from their bodies in a stream, return before daylight and slip on their collars. Monkeys many times will kill their young, when tired of carrying them. They are also fond of deception and are great thieves. Many animals develop uncontrollable passions, and while infuriated often kill those of their own species or even family.

While these facts and many others have been observed, it is true that the maternal instinct is highly developed in animals, and that affection is so strong in some that they will die for or in defense of their own species, and in some instances those of other species. Though some of the acts mentioned may have been done in self-defense or self-preservation, there are many apparently purposeless acts against the natural instincts of animals, that may surely be classed as morbid.

Turning our attention to the uncivilized races of men, we find crime especially frequent. The primitive tribes, as a rule, place but little value on human life, especially on those of women and children. **Wood**, in his "History of the Uncivilized Races of the World," cites any number of instances to show the criminal tendencies of the savage. Some of their crimes are associated with their religious or superstitious beliefs; but many seem to be the natural result of unrestrained animal passions. I have been told by one living among our American Indians in Idaho, that infanticide is common.

The study of childhood offers much that is of practical as well as of scientific interest. The psychology of children occupies a middle ground between that of the lower animals and the adult man. It may not be pleasant to some to associate our babies with the lower animals; but it is, nevertheless, true that a close study of human embryology and the psychology of childhood teaches us that there are definite relations between the workings of the animal and infant mind. An infant at birth has its animal instincts highly developed, and in gesture, mimicry, and instinctive movements bears a close resemblance to the monkey. As the minds of children gradually develop, those qualities which are prominent in criminals and degenerates are the first to evolve. The idea of self enters more largely into all their acts than in normal adults. The emotions of the child are more easily aroused and less under the control of the will than in later life. Attempt to injure those around them are very common during fits of anger. Petty thieving of tempting morsels, of playthings and of similar articles, and the practice of lying are common, even among carefully trained children. Capital crimes are not unknown among children. Murder and assaults have been reported many times. Children have a very imperfect idea of ownership and responsibility. Deceit, vanity, pride, superstition and cruelty are common traits in early life. These qualities, so undesirable in adults, are usual in children; and an exaggeration of these very traits in criminals marks them as vicious members of the community.

Idiocy, feeble-mindedness and epilepsy are accompanied by mental impairment, and often lead to crime and acts of violence. These affections may be due to congenital defect, to injuries, or to disease. Emotional instability is common among criminals, and often develops while they are secluded in prison. They frequently have periodic explosions that resemble epilepsy and which, like that disease, are more frequent in hot weather. One observer states that four per cent. of the criminals under his care were subject to violent fits of passion; among women these attacks are more common during the menstrual period.

Lombroso has pointed out that those regions in Italy that produce the most epileptics also produce the largest number of criminals. The relation between insanity and crime is an important one, although too large a subject to be considered in a paper of this kind. Those crimes that lead most often to insanity are potent agents in the production of crime. For instance, syphilis, alcoholism and sexual excesses are responsible for much of our insanity and our crime.

Jacobi says: "The constitutional criminal is a tainted individual and has the same relation as the epileptic to convulsions. The essential reason of abnormal brain action is abnormal brain structure." Later he says: "There is no special type of insanity or of criminality. There is but one thing fixed, that is, the relation of cause and effect, the correlation of physical causes, and mental and moral symptoms."

Lombroso, in his "Men of Genius," and **Nordau**, in his "Degeneration," give any number of examples of excessive nervous and mental action in men and women who have been prominent in their respective fields of activity. While it is true that **Nordau** has exaggerated the condition, it is, nevertheless, a fact that the history of poetry, art, music and literature is filled with examples of men and women who bore distinct marks of degeneration. Many inherited insane tendencies, some succumbed by reason of disease, overwork or dissipation. According to one authority, insanity is forty times more frequent among criminal than among average men and women.

We can trace in all individuals a process of evolution in the building up of their natures. Animal instincts are highly developed at birth, next intellectual power is added, and finally moral and ethical conceptions help to round out a man's character.

That it is possible to have arrest of development during any stage is apparent, just as there may be arrest of development during the embryonic stage, leading to congenital anomalies. If the process of evolution is checked in early childhood, only the animal instincts exist, and idiots and imbeciles are the result. If the arrest takes place later, we have impaired mental power or feeble-mindedness. If the arrest or atrophy is postponed until manhood is reached, we may have intelligence, but no moral sense. There are in society today many moral imbeciles, whose intelligence disguises them from the world until they commit some heinous crime that reveals their true character to society.

Heredity exerts a marked influence in the production of criminals. Just as physical and mental peculiarities are transmitted from parent to offspring, so moral and criminal tendencies are, likewise, inherited by children of degenerate parents. Some would explain these apparent transmissions of criminal tendencies to environment, but after considering all points, there seems to be no doubt that criminal tendencies are actually transmitted. We do not mean by hereditary transmissions of criminal tendencies that parents must have been actual criminals in a legal sense, or that the children are; but that the inebriate, the epileptic, the insane, the morally depraved beget children that are deficient morally and are prone to drift into criminal life, without regard to environment.

The **Jukes** family, as studied by **Dugdale**, is an excellent illustration of the influence of heredity. From the head of the family, **Max Jukes**, a great drunkard, descended, in seventy-five years, 200 thieves and murderers, 280 invalids attacked by blindness, idiocy or consumption, 90 prostitutes and 300 children who died prematurely. Out of 709 descendents carefully studied but few were honest. Of the men, not more than 20 were skilled workmen and ten of these learned their trade in prison.

It has been observed that criminality, like idiocy, tends to run in the line of the eldest sons. **Morris** gives instances where, for four generations, marks of degeneracy were plainly evident. and with the fourth generation the race became extinct. He also points out the tendency to degeneracy in children of intemperate parents.

It would be interesting to study more in detail the influence of such diseases as syphilis, tuberculosis, alcoholism and meningitis in the production of abnormal conduct. That these and many other affections are important can hardly be doubted after studying carefully the histories of many criminals, who, either by inheritance or from acquired disease, have dyscrasiæ, which enfeeble them physically and render unstable their nervous systems. We must not infer from this study that criminals and degenerates can be arranged like pathological specimens in a museum, each labeled as a distinct morbid entity, with a proper diagnosis, and all dependent upon actual disease. We must remember that environment, education, association and climate bear an important relation to vicious conduct; and it is only by weighing these various factors in each individual case that a scientific diagnosis can be made.

The conception of crime on the part of many reminds one of those days of superstition and ignorance when those affected with insanity, epilepsy, chorea and similar diseases were considered to be bewitched by the devil, and therefore were cast into prison, hanged and even burned to the stake. The history of witchcraft in our country is a blot upon old New England. Today all is changed. We have asylums for the insane, colonies for the epileptics and homes for the feeble-minded, while the aim is to reclaim these unfortunates and to return them as useful members of society.

From our experience in the past in dealing with those mentally impaired, and from our present knowledge of the normal and diseased workings of the brain; can we not apply similar methods to the study and care of criminals and degenerates?

This problem is of great importance to society and the state; and it behooves the medical profession to give the same study and thought to it as they would give to mental diseases in general. It is necessary that we keep in touch with this problem in order that we may give an intelligent opinion and wisely direct legislation along lines that are practical, scientific and just.

SOME SURGICAL "SINS OF OMISSION."*

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When your president asked me to read a paper before you, I understood that it should be one of general interest, not one dealing with rare conditions or unusual surgical procedures. The interest formerly evinced in the subject of injuries and surgical affections of the head seems to have died out, and I fear that there is danger of overlooking some important facts. This is more especially true for the general practitioner, he into whose hands cases first come, who controls the after-results in traumatisms; for, as Nussbaum says, the fate of a wounded man is in the hands of the surgeon who first examines him. I propose this evening to briefly restate, not that which my hearers do not know, but what I think they are in danger of ignoring in practice. I shall confine my remarks to three or four "sins of omission," which some of those professing to be surgeons are likewise guilty of. My experience as a surgeon to a large accident hospital has taught me that what I propose saying is something which needs constant reiteration.

*Read before the Detroit Medical and Library Association.

The first evil practice to which I desire to call your attention is the natural sequence of the fundamental error that a scalp wound is a trivial affair, demanding neither special care nor skill in its treatment, because the scalp is such a vascular structure that open traumatisms will nearly always heal by the first intention, or by a rapid granulating process. This, like all half truths, sometimes proves more disastrous than the most serious error. Dangerous consequences from ordinary scalp injuries are doubtless the exception, but they are needless exceptions in nearly every instance, and when human life is at stake are not to be tolerated. If all believe firmly, as I do, that every scalp wound, however trivial, is one menacing life, the exceptional—that is, dangerous—cases will be few and far between. Whence comes the danger? From infection. But why should infection be so dangerous in structures which from their vascularity should be best able to cope with germs? Because of the vascular relations existing between the most superficial vessels and the intracranial circulation. Did time permit, I could demonstrate the very numerous routes of direct or indirect vascular communication between the scalp and the vessels of the brain. Suffice it to say that the vessels of the scalp, surrounded with their perivascular lymph sheathes, communicate with those of the aponeurosis of the occipito-frontalis muscle, the latter's with osseous vessels, and the diploic in turn with the great venous sinuses of the cranium. Hence, in those cases which are in reality at the outset nothing more than simple scalp wounds, a cellulitis, septic pyelo-phlebitis, osteo-myelitis, infective meningitis or even pyemia may, and too often does, result from unfortunate environment or unskillful treatment of a scalp wound. I have seen death from pyemia follow a mere abrasion produced by a blow with the bare fist on the forehead, and tetanus from an insignificant head wound. But what warrant exists that the smallest scalp wound is nothing more? Let me give a few illustrations of "simple scalp wounds" as they were termed by those who first treated them.

Nearly a dozen years ago a youth of nineteen years of age walked into the out-patient department of the Protestant Episcopal Hospital complaining of a small sore on the left side of his head which had existed for over two months, the result of a blow upon the head which had knocked him down but which had caused neither unconsciousness nor any symptom referable to the brain. The case had been treated as a simple scalp wound in Chicago. The interne, upon examination, found a projecting corner of a broken knife blade and thinking it to be only a fragment, forcibly removed it with the forceps, when it proved to be a large penknife blade which had penetrated the skull, the point being imbedded in the brain substance for over an inch, the location being just behind the Rolandic fissure. Omitting further comment I will say that a brain abscess formed which I diagnosed and evacuated, but the patient subsequently died, from avoidable complications, *after a flaxseed poultice had been applied to the protruding herniated brain.* I need hardly say that this was not by my orders or while the patient was under my care.

Again, a boy having been knocked down by a snowball thrown by a man, received a small wound in the frontal region. He came under the charge of one of the out-surgeons to the same hospital. Until serious intracranial mischief became manifest no suspicion of the real nature of the injury was entertained. One of my colleagues explored the wound, as should have been done at first, discovering a small pebble imbedded in the bone, a compound fracture, infection, et cetera. The case terminated fatally in a few days by diffuse intracranial suppuration and brain abscess.

Upon casually mentioning to a prominent surgeon some years ago that I had recently removed a number of scalp hairs imprisoned in a capillary fissure of the skull, which were in contact with the dura mater, that is, were nearly certain to give rise to infective encephalitis, he showed me a trephine button traversed by a fissure imprisoning several hairs. This had been removed at an operation for infective intracranial trouble following what was supposed to be a simple scalp wound which had been closed. In these cases a sufficient depression of the bone had occurred, at least in my case, to permit both tables of the skull at the point where the hairs were found to pass below the level of the sound skull, the resiliency of the bone causing it to immediately return to its normal level, leaving only a capillary fissure. This is not surprising when we reflect that it has proved possible for a fragment of a bullet to thus become lodged beneath the skull.

The best way to illustrate the "sins of omission" committed in such cases as we have been considering will be to contrast the proper course with that too commonly pursued.

After thorough sterilization of the hands and instruments a compress wet with some efficient germicidal solution should be placed over, or lightly packed into, the wound. Next the scalp should be shaved and disinfected for at least one inch around the wound, preferably much farther. Agents calculated to remove all oily materials should be employed to enable the germicidal solutions to act. Renewed disinfection of the hands must precede the disinfection of the wound itself, which should now, for the first time, be explored. Should the slightest doubt exist as to the presence of a fracture, the wound must be sufficiently enlarged to determine this and secure disinfection. Passing by, for the present, omissions of important measures in the treatment of fractures, let me contrast the two methods commonly employed during an examination of a scalp wound. The attendant takes off gloves, which have been used for months perhaps, while attending all sorts of contagious diseases, as erysipelas. Oftentimes, without washing the hands, or after a perfunctory attempt, without cleaning the nails, removal of the hair around the wound or sterilization, the wound is explored and infected, if it has not already become so, when, finding a fracture exists, the physician if surgically inclined proceeds to attempt such disinfection as will give him least trouble, or salve his conscience, after which he operates. If not willing to operate, after infecting the wound and thus doing all the damage he can, he sends for a surgeon or has the patient conveyed to a hospital. I have said "the practitioner uses such measures of disinfection as will give him the least trouble or will salve his conscience," because a man proceeding as I have described either does not believe in asepsis at all, or is not honest enough to do what he knows is his imperative duty. The "sin of omission" in not examining scalp wounds properly so that fractures, imbedded foreign bodies, and scalp hairs are overlooked, is well illustrated by the cases already detailed, but this important point will be amply demonstrated later.

I wish next to show the folly of ignoring the pregnant saying of the old surgeon that "no injury of the head is too trivial to be despised," even those not associated with any wound of the soft parts. This neglect of the "ounce of prevention" in many cases of apparently slight head injury constitutes a most serious "sin of omission" which often costs health or life. The risk may be immediate or remote, and much of this could be averted by proper care. Let me relate some cases in evidence of this. I was requested to see in consultation a young lad who had fallen upon his head while playing leapfrog, but who had walked home with his comrades' assistance immediately after the injury. When his attendant first saw him slight symptoms of concussion were noted. Next day he seemed better, only complaining of some pain in the head. Upon the third day the improvement was very marked, nothing but slight headache remaining. He begged to be allowed to sit at the window, and, notwithstanding the doctor's injunctions, walked about the apartment and went to the yard to evacuate his bowels. A few hours after his physician's last visit the doctor was hastily summoned and asked me to accompany him. Upon our arrival we were informed that shortly after returning from the yard the patient had suddenly vomited, and that eclampsia and death had almost at once ensued. Postmortem examination revealed an insignificant ecchymosis over the right mastoid region, the result of infiltration of blood from the line of fracture. On opening the skull a fissure was found traversing the right petrous bone, and extending forwards from the occipito-mastoid suture, which was separated. A minute blood-clot a few lines in extent lay near the fracture within the arachnoid sac, but otherwise the membranes and brain appeared singularly healthy. HILTON reports similar cases, where just so long as the patients remained quiet no trouble resulted after injury, but getting up and around they soon developed symptoms first of intra-cranial irritation, then of inflammation, et cetera. As long as such patients remain quiet, as long as no physiological vibrations are excited by locomotion, just so long does the brain substance contiguous to the lines of fracture escape injury. The primary slight laceration of the brain substance is recovered from, and if quiet is maintained for a sufficient length of time, permanent recovery ensues. Let, however, the patient, tempted by his apparent recovery, leave his bed, and immediately the normal vibrations, which must mechanically arise, are excited. Safely conducted away by a normal skull to points where they are annihilated, the course of the vibrations are now interrupted by the fissures of the bone, and the superimposed brain substance is jarred and probably slightly lacerated. From such constantly recurring injuries, slight though they be, in the adult a *locus minoris resistentiæ* results with an infective encephalitis, if germs reach the spot, either directly or through the medium of the circulation. In children fatal eclampsia may result from the irritation without infection, as in my case. Again, sudden displacement of an unsuspected fragment comprising a portion of the foramen magnum has caused instant death by compression of the medulla,—this last accident need never have happened if the patient had maintained the recumbent posture.

I shall next relate a case illustrative of a class of apparently trivial injuries, which are too often neglected until all chance of effecting good has been lost. Although my case was complicated by a small wound of the forehead, many of those cases belonging to this category show no evidence of external injury, or possibly only a slight contusion of the scalp. A young man watching a street fight, was knocked down by a blunt weapon, probably the butt of a musket, the blow being received just above the right eyebrow. A comparatively small wound of the soft parts resulted, extending down to the bone but not depressing it. The patient was felled by the blow but at once got up and walked a fourth of a mile to a hospital, arriving there about 10:30 P. M. The interne examined and dressed the wound without detecting any osseous lesion, and the patient was put in bed without further investigation. About one hour later his mental condition aroused some anxiety, but this was not deemed of enough moment to warrant notifying me. Later, the deepening coma, left hemiplegia, dilatation of the right pupil, and the rapid pulse at last induced the interne to send for me. On my arrival at 1 A. M. there was absolute coma, and I instantly diagnosed what ought to have been recognized two hours before, namely, compression from middle meningeal hemorrhage. I trephined at once without anesthesia, but it was too late, as nearly one-fifth of the cranial cavity was occupied by effused blood. Early operation would probably have saved this boy's life, for while there was an extensive fracture which had escaped detection by the interne, the free drainage and disinfection necessitated by the operation would almost certainly have averted an infective encephalitis. This case could be employed to illustrate many other points of importance, but I cannot pause to dilate upon them.

While it is unquestionably true that most cases of middle meningeal hemorrhage are caused by very considerable violence this is by no means invariably so. Thus MR. ERICHSEN relates the following cases: "A lady, going into the opera, stumbled as she went down some stairs, and struck the side of her head against the wall. She felt giddy and confused, returned home, went to bed, and was found comatose the next day. I [MR. ERICHSEN] was sent for but before I could trephine her she had died. On examination, a four-ounce clot was found on the dura mater, under a ruptured meningeal artery, but without fracture. I have seen the same in a boy who, running down stairs to his dinner, struck his head against the opposite wall; he ate his dinner, became drowsy, and died. A large clot was found on the dura mater at the part struck. In neither of these cases was there any external bruise or other sign of injury." Therefore, it is a most serious "sin of omission" to fail to watch every patient who has received a blow upon the head of sufficient severity to produce temporary loss of consciousness, much more those in which the injury has confessedly been a severe one.

I could relate two very pertinent cases occurring in my private practice where fatal results, caused by a subdural hemorrhage, could probably have been averted if the axiom "that no head injury is too trivial to be neglected" had been believed. I could detail cases by the hour, occurring in my own practice, demonstrating the truth of this contention, but enough has been said to illustrate my meaning and serve as a basis for discussion.

The last "sin of omission" to which I desire to call your attention is that of not actively interfering in *every* case of compound fracture of the skull. I must protest in advance against the citation of the confessedly numerous cases where this rule has been ignored and no evil has resulted,—at least in the opinion of the attendant. There are two fallacies inherent in this line of argument, the first being that enough time has not elapsed since the injury when these patients were last seen to admit of the development of symptoms requiring time for their full manifestation; and often, favoring conditions, which latter may fail to present themselves in all instances. Many of these cases are never seen again by the practitioners who first attended them, but pass, years later, into the hands of surgeons or neurologists. The second fallacy is that it is possible to determine which cases will suffer from late insanity, epilepsy, et cetera, and which will not. Of course no one openly maintains such an absurd position, yet this mischievous error really underlies the opposition to operation in *all* cases of compound fracture quite as much as the belief that nearly all cases of unoperated compound fracture remain throughout life free from sequelæ. As an operation, properly conducted, should lessen the immediate risks to life rather than increase them, and as it is the sole prophylactic means at our disposal to lessen the chances of grave sequelæ, I contend that it is our duty to intervene. False notions relative to the pathology of compound fractures, together with certain statements which are still allowed to remain unchallenged in our standard surgical works, explain the antiquated practice too often still in vogue. Some of my own writings are obnoxious to the charge of incorrect pathology likely to give rise to errors in practice, but my practice was better than my pathology, and I have since endeavored in my various public utterances to correct any misapprehensions left.

I cannot do better than to comment on the statements made in a well-known work which has already gone through six editions, and is used as a text-book in most of our foremost medical schools. Still further, this work is so admirable in most respects that its erroneous teachings on this and some other subjects prove far more injurious than similar expressions found in an inferior work. This author states: "The objects sought to be gained by the use of the trephine are the removal of compression, whether caused by extravasation, by displaced bone, or by the presence of pus, and the prevention of inflammation, by the removal of foreign bodies, such as sharp spiculæ of bone, musket balls, et cetera." * * * * "SEDILLOT recommends trephining as a prophylactic in many cases of fractured skull, but his views are not shared by surgeons generally." Now, just here I join issue with the author. The removal of pressure produced by bone is seldom now regarded by surgeons to be of moment, except where there is distinct depression over a limited area corresponding to a portion of the brain possessing distinct functions, *and where these functions are in abeyance.* Indeed in these very cases the elevation of the bone proves often to be only a means to an end, namely, the evacuation of effused blood which was producing the pressure. Pus need not concern us in recent injuries such as we are now studying. Inflammation, however, is not to be prevented by "the removal of foreign bodies, such as sharp spiculæ of bone, musket balls, et cetera," simply because they are foreign bodies, *since unless infected they cannot of themselves cause inflammation*, although doubtless *favoring* its occurrence and spread by *lowering the vitality of the tissues.* SEDILLOT'S practice was sound, but owing to lack of knowledge of asepsis his results were poor. His views are now held by surgeons generally, at least those who are able to do operations after strict modern methods. Our reasons are indeed different from those actuating SEDILLOT, but his practice was correct. Let me quote still further: "If it were possible to be sure that the seat of the extravasation was between the brain and dura mater, and that there were no other lesions, operative interference might be employed with some hope of benefit. When it is remembered, however, that the seat of extravasation can very rarely be determined and that these cases are almost invariably complicated with grave injury of the brain substance, it ceases to be a matter of surprise that MR. HUTCHINSON was able to declare, a few years since, that the modern annals of surgery did not contain any cases in which life had been saved by trephining for this state of things. There are, indeed, a few cases on record in which blood has been evacuated from between the dura mater and the skull, or even from the cavity of the arachnoid, the patients recovering. **Kronlein** and **Rochet** have recorded cases of successful trephining for depressed fracture with rupture of the middle meningeal artery; but, in the majority of instances, the operation has been useless, or has even hastened death. Hence, I cannot but think that, as a rule, the surgeon will do wisely to abstain from the use of the trephine in these cases, relying upon medical treatment, as in dealing with ordinary apoplexy."

My first criticism shall be directed against the statement that as we cannot be sure of the location of the extravasation and as there may be other serious lesions affecting the brain substance, therefore nothing should be attempted. I next object to the assumption that intracranial extravasations of blood are as a rule complicated by serious lesions of the brain. This may be often true if we believe that most of such hemorrhages occur within the so-called arachnoid cavity, but is this the usual position? Most assuredly not, and the author goes on to mention the exceptional (?) results obtained by operating in middle meningeal hemorrhage as well as in those for extravasation "between the dura mater and the brain." I have often wondered whether the author did not mean "extravasation between the dura mater and the bone," and yet the word "blood" being avoided I cannot but believe that the attempt has been made to include blood *and* pus together, and in addition make no distinction as to locality. This is manifestly unscientific and decidedly misleading in practice. Middle meningeal hemorrhage is the most common cause of immediate cerebral compression, is readily diagnosed, and is—notwithstanding the author's statements—usually capable of relief, yet it is clearly included in the denunciation against operating. This statement, made by **Mr. Hutchinson** nearly thirty years ago, is repeated without any adequate qualification, in 1893. The quotation appears in the edition published twenty-five years ago, but of course was penned before that and grammatically refers back to at least 1865–66. It is true that a footnote does mention cases occurring in the practices of a number of surgeons which flatly contradict the statements of the text, but the wording is such as to lead the reader to adhere to the doctrine taught in the body of the work, not to that inferred from the contents of the note. A moment's reflection must show that if so many different surgeons could publish successes, a similar result would be quite common if the two prevalent views as to nonintervention were changed. But how is it possible to repeat such statements as I have quoted in the face of the statistics of **Weissmann**, published in 1885, since which two editions of the work I am quoting from appeared, wherein it is shown that out of 147 cases treated by the expectant plan, 131 died, a mortality of about nine-tenths, while of 110 operated upon only 36 died, or about one-third. Moreover, postmortem examination of the fatal cases showed that in a considerable number the extravasation had not been discovered, but that a more thorough conviction of the propriety of operating and a bolder operative procedure would undoubtedly have saved some of the patients. Moreover, in 1883 and again in 1888, I had demonstrated the inaccuracy of **Mr. Hutchinson's** statement. Besides, if subdural blood had been diagnosed by numerous surgeons, as I myself have diagnosed it, and it had been successfully evacuated, as other surgeons have evacuated it, in appropriate cases of an injury so often fatal without an operation, interference is certainly indicated. What if there be grave injury of the brain substance, if this be not necessarily fatal, surely prolonging life by preventing immediate death from paralyzing pressure exerted upon the centres of respiration and circulation affords a chance, and the only chance, for recovery. Again, the fallacy is stated, that the operation adds materially to the danger. This I must emphatically deny, *provided asepsis is secured.*

While I grant the possibility of the correctness of the teachings when the lines I have been quoting were first penned, yet I do deny the propriety of repeating this error for twenty-five years in the face of all that cerebral localization has taught us, the hundreds of successful operations performed by the average hospital surgeon, and journals, until recently, teeming with reports of successes until they became too common to be worth reporting. Still, this statement goes forth to effect its deadly purpose by encouraging the cowardly and the inexperienced in their far from "masterly inactivity," as expectancy is too often *mis*termed. It must be remembered that I am not attempting to indicate what kind of cases belonging to the classes under consideration should be, or should not be, operated upon, or contending that every patient suffering from a head injury should be trephined, but I am advocating the principle that every case of head injury complicated by intracranial hemorrhage is operable and salvable, *until careful examination and study demonstrates the contrary:* you will observe that this is practically the converse of the teachings I have quoted.

Finally, what are the supposed advantages to be secured by trephining and which induce the surgeon to perform this operation, seemingly so dangerous, at least according to my authority? The first part of my quotation I believe very accurately represents the prevalent ideas upon the subject. The objects sought are stated to be the removal of compression produced by depressed bone, or blood (pus does not concern us here), and the prevention of inflammation by the removal of irritating fragments of bone, foreign bodies, et cetera. I deny that all the valid reasons for trephining are contained in the statement just read, still further I maintain that the real point at issue has not even been touched on, so far as compound fractures are concerned. The modern and sole reason in many cases of compound fracture which induces the surgeon to operate is not intracranial hemorrhage, compression by depressed bone or irritation produced by sharp osseous spiculæ, for often none of these exist, as for instance in such fissured, undepressed fractures with imprisoned hairs, as I have already mentioned, but *to secure disinfection and drainage*, if disinfection cannot successfully be effected. Immediate danger to life from a broken skull does not reside in the mere injury to the osseous tissue, the depressed spiculæ of the same, or the lacerated brain substance, unless the latter involves centres essential to life, *but from infection.* Doubtless infection is more likely to prove effective if the vitality of the encephalic contents is lowered by the damage inflicted by the continued pressure of bone spiculæ or a foreign body, but unless infection has occurred recovery will ensue. The opportunity for disinfection by the removal of infected bone fragments, hairs, and foreign bodies, with drainage in case the efforts at disinfection fail are the *real* indications for trephining in compound fractures, and not to do so is a serious "sin of omission" which such teachings as I have been combatting tends to perpetuate.

The late headaches from dural irritation, epilepsies, insanity and other sequelæ of compound fractures are additional and valid reasons for immediate prophylactic trephining in all such cases. If neither depressed bone, spiculæ or infected foreign bodies be removed, no harm should result from a properly conducted operation, but in the vast majority of instances some or all of these conditions exist and will be only remediable by operation.

In conclusion, let me reiterate that I have merely attempted to sketch in rudest outline a few—a very few—of the "sins of omission" committed during the treatment of head injuries, leaving for my hearers to fill up the outlines during the discussion. While to some of you my statements may seem revolutionary, they are merely the reflection of modern—not opinion but—practice, founded indeed upon theory, but *proved* in practice, and when theory and the result of practice founded on the theory move hand in hand we have attained as near to perfection as we can at present hope to, although trusting that the future holds in her lap still richer gifts for those who are more anxious to learn what is true than to maintain their own views, whether expressed in print or otherwise.

SOME PHASES OF TUBERCULOSIS SUGGESTIVE OF A RATIONAL TREATMENT.*

By S. E. CAMPBELL, M. D., SAGINAW, MICHIGAN.

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IT is questionable if medicine proper is keeping pace with its running mate—surgery—in these days.

In the mind of the public and a considerable element of the profession, surgery is apparently the real theatre for the exhibition of skill and brilliancy, and that chiefly in surgical lines are to be found the opportunities for innovations, discoveries and roads to renown. If we but think a moment we will see that in lines altogether nonoperative there are dozens of opportunities, for the execution of skill, to one in which operation is required. Hence the profession ought, while not giving less attention to the surgical side of our profession, give more to the medical. Though I have a strong liking for the operative, I believe there is just as much, if not more, skill required in successfully conducting some cases that are purely medical. Hence, I offer this preliminary paper on a subject that in the past and present, and likely to be for some time to come, largely, one in the field of medicine, and with comparatively few cases purely surgical. It is with the hope, too, that though I may not offer anything of great intrinsic value in itself, yet it may hold out a clue which some one with greater opportunities and accomplishments may follow to a successful issue in the matters under consideration and even in diseases having more or less close affinity to tuberculosis.

As the heading of my paper implies, I do not intend to deal particularly with the history, etiology, pathology or diagnosis at this time, further than to say that tuberculosis under the name of phthisis or consumption has been known and treated for centuries, and one theory after another has been advanced, as to its etiology, pathology and treatment, only to be abandoned and another taken in its place. With but few exceptions at the present time, nearly the entire profession of rational and scientific medicine, regard it as due to the bacillus tuberculosis discovered less than a score of years ago. Some one a year or two ago advanced the idea that it was a neurosis, but it is safe to say that the neurotic features of tuberculosis are the results rather than the cause, and as I shall present my views from the point that the bacillus tuberculosis is the prime cause, it is needless to refer to other views of etiology. I do, however, wish briefly to touch on the pathology as perhaps giving a better idea of the principles of treatment that I wish to suggest. In the main I wish to refer you to the authorities on the subject and your own observation and experience, but there are some things to which I wish to allude.

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* Read before the SAGINAW COUNTY MEDICAL SOCIETY.

In the first place it will be well to remember that the primary result of the presence of tubercular bacilli in any portion of the system, say the lung, is to produce what we term inflammation. Now, in all processes of inflammation, and that due to bacilli tuberculosis is no exception, there are certain local and general or constitutional effects. As to the first, due no doubt to the changed condition and relations of the parts affected, there is pain for instance when the pleura is affected, increase of mucus from the bronchi when the deeper lung structure is affected, or if in the intestines there is an increase of the secretion of the glands of these organs. There is, too, frequently interference with the functions of adjacent organs. Then there are the far-reaching effects, as fever, due in part perhaps to the effect on the nervous system by the local pain, but still more to changes that take place in the blood from the formation of new products by the diseased portion, but more particularly to the waste products of the growth, death, and decay of the tubercular bacilli themselves. Now, it is on this point that I wish to particularly invite your attention, as I believe it is one of great importance. These products are somewhat of the nature of alkaloidal poisons or the venom of snake bites, soluble, diffusive and powerful, and some of their effects are very like long known and alkaloidal poisons, as, for instance, excitation, depression, pain, fever, sweating, prostration, convulsions and even insanity. Hence the local lesion affects the vital economy just so far as it is greater or less in extent, or affects an organ of greater or less importance, and, say, when it affects the lung the magnitude of the diseased portion will just as far interfere with the aeration and oxidation of the vital fluid, and this lessened aeration and oxidation, have the same effects on the various functions of the different organs and processes of the animal economy that the interference by any other cause does, namely, lowers vitality, that is, lowers assimilating and resisting power. But the inflammatory and especially the waste products have a complex action. At times they would seem to be primarily a stimulant or excitant, at any rate to the nervous system. Note, for instance, the precocity of some children with latent tuberculosis, and the state of high tension existing in some adults during the early part of the disease, but in the end there are certain well defined indications of the marked depression from these intense poisonous products, noticeable in the great feebleness, neuralgias and lowered assimilating and resisting powers.

The effects of these systemic poisons or septic intoxicants, like the effects of the local lesion, varies with the natural resistance of the particular individual. Some, while freely exposed to the disease, will escape just as some do from small-pox, measles, or typhoid fever. Others, from inherited or other causative factors, are more easily attacked and succumb to the disease. In other words some are immune, others are not; and in passing it may be permissible to allude to certain elements in the treatment by tuberculin. Now, if serum highly charged with the products of tubercular bacilli when introduced into a healthy subject will make that individual immune to the bacilli tuberculosis, ought we not to expect that a child born of a woman in an advanced stage of tuberculosis, and nourished by a highly intensified tuberculized serum should be immune, or at least have great resistance to the tubercular bacillus? The contrary is the well-known rule. It is a point well worth considering. I have spoken of the effects on the patient of these products. I wish, in passing, to suggest that they no doubt have some influence, too, on the multiplication directly or indirectly of the bacilli themselves, by making the surroundings more congenial to their growth, possibly by their intrinsic character, possibly by the higher temperature caused by these ptomains, favoring the development of the bacilli, for it seems that the cases progress most rapidly where there is a more or less continuous elevation of temperature.

As to the diagnosis I need not occupy your attention at this time, and you are all familiar with the prognosis under past and present methods.

We now come to the consideration of the treatment, and I do not intend offering a long list of cures, nor exhibiting for your examination the remedy, not just yet; but simply to offer some suggestions that I believe will aid in supplying the key to the situation.

That there are natural laws in therapeutics I presume no one will deny, but we are yet far from having a clear understanding of these laws or even the cardinal principles. Take, for instance, syphilis, and the drug which probably the majority of the profession regard as the nearest specific known. The mode of action of mercury in syphilis is really unknown, farther than that in most cases it brings the affected person from a state of disease to one of health. True, it is called an alterative, but that gives us no clear idea of its mode of action. In these days of antiseptics, it is sometimes considered an antiseptic in this disease, but after all, this is hardly possible, when we find that solutions of one to the thousand, or at least one to four or five thousand of bichloride of mercury are required to kill the organisms outside the body that are inimical when introduced into the system. Hence, it can hardly be expected that the attenuated solution that must exist in the human body, even when the most heroic doses are administered could be effective, consequently we must adopt some other theory of its mode of action. Therefore, if we are unable to introduce bactericides into the system, powerful enough to destroy the intruders without killing the patient, it seems to me the most rational hypothesis for treatment not only in syphilis but also in tuberculosis and other diseases caused by microorganisms, is that of neutralizing, and eliminating, the waste products before mentioned of these organisms, or in producing some substance within the human body capable of waging war on the intruders, or, both these processes. Now, it is more than probable that this is the very thing we have been doing, but without a very clear conception of the philosophy of the matter, for we do find that certain poisons are neutralized and eliminated, and it has been observed in different diseases that the white blood-corpuscles are vastly increased and one can imagine their behavior to be like that of an army trying to dislodge an enemy.

The treatment, so far as I am aware, has been on five lines separately or combined in various ways. First, improvement of nutrition, and assimilation, and all that these terms imply; second, reduction of the local inflammation by local or systemic medication; third, palliatives directed to the symptoms; fourth, entire removal as in a local affection, and applicable to a limited number of cases; fifth, destruction of the tubercular bacilli or at least the attempt, by medicines administered locally or systemically.

I wish to offer at this time, or rather suggest, for as yet I cannot say it is fully developed, a line of treatment as already hinted at, and which I believe I am the first to point out, and though the remedy itself I am not able definitely to point out, I am quite sure the idea is the correct one.

Let me use a homely illustration that may help elucidate my meaning. A person affected with tuberculosis is very much like a country invaded by an enemy. So long as it has an army to fight, and supplies to support it, and means to procure recruits and allies, its chances of putting the enemy to flight are good. So, here, the patient is the field of campaign, the bacilli tuberculosis are the enemy, located say in the lung. Now, so long as we can keep our fighting forces in good order, on the advance or at least holding the ground, there is a possibility of winning the field.

How, then, are we to proceed? By taking the bulwarks, starving and driving out the enemy. Now, the bulwarks, I venture to suggest, are the alkaloidal or ptomain substances, before mentioned, which by their presence contribute greatly to the multiplication and activity of the bacilli. By neutralizing and eliminating these products we make the dwelling less congenial, when we can to better advantage, use our left wing so to speak, the leucocytes to cover and drive out the enemy. Therefore it would seem that the agent or agents sought for are to be found on the lines suggested, first, for the purpose of neutralizing the ptomains and eliminating them from the system; second, by stimulating the leucocytosis and phagocytosis and increasing the bactericidal powers of the blood.

I believe these agents will partake of some of the properties of an alkaloid, with an action somewhat like nuclein, being very soluble, highly diffusible and powerful; and I venture to prophesy that it will be of vegetable origin, and that phosphorus or sulphur will be a prominent chemical element.

APPENDICITIS, WITH REPORT OF CASES.*

By W. H. HAUGHEY, M. D., Battle Creek, Michigan.

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In this paper I shall not dwell on the history of appendicitis but will begin at once with etiology and rapidly pass to diagnosis and treatment.

E. Hoelenpyle and G. R. Fowler, of New York, and Azouly, of Strassbourg, consider appendicitis to be of septic origin, the agent probably being the bacillus coli communis.

Jessop, of Leeds, reports a case of dilated distal extremity with stricture of orifice.

Griswold, of Sharon, Pennsylvania, had a case of peritonitis from an enterolith the size of a filbert passing through the distal end of the appendix.

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*Read before the Battle Creek Academy of Medicine.

F. N. **Hunt**, of Minnesota, considers appendicitis an exudative inflammation.

Lane, of London, **Frazer Wright**, of Edinburgh, and **Stanley**, of Birmingham, report cases of early perforation.

It is not probable that grape seeds or other foreign substances enter into the etiology at all (unless, perhaps, to excite local inflammation which may soften the walls sufficiently to allow the germs to pass through them and also form a good medium for their growth), but the belief is more firmly obtaining that it is a germ disease, and that the bacillus coli communis is the offending germ, though it may be, and probably is, assisted by the bacillus pyogenes fetidus, and occasionally by the streptococcus.

The diagnosis of appendicitis is sometimes very difficult indeed. **Richardson**, of Boston, reports two cases operated on by him in which all the symptoms were in the region of the liver, but usually the diagnosis is easily made. The same author says the diagnosis rests—(1) on pain, which is not necessarily confined to the right iliac fossa; (2) tenderness, usually more marked over the appendix; (3) vomiting, present in almost every case, and of grave significance if it becomes of coffee-ground color, even if not stercoraceous; (4) diarrhea, present in a large number of cases in the beginning.

All observers are practically agreed as to etiology and diagnosis, but the greatest difference of opinion exists as to treatment, of which I will speak later.

The principal diagnostic points noticed in my own cases are the following: Appendicitis presents itself in two varieties, namely, the suppurative and the nonsuppurative. The suppurative form should be treated surgically, but the nonsuppurative will do very well with medicinal treatment. Usually, if the symptoms persevere for thirty-six hours the case will be of the suppurative variety and should be operated upon. The first symptoms are pain in the stomach and vomiting. This pain is severe, and although it is usually referred to the region of the stomach, it may be referred to any part of the abdomen; but in whatever part of the abdomen the initial pain is felt, it in a few hours is located in the right iliac region when, as a rule, the vomiting ceases. During this time the temperature is elevated, often reaching 103° to 104°; the pulse is quickened and the patient usually complains of chilly sensations. As the vomiting ceases the patient and his friends think he is better, and will so inform the doctor on his next visit. The thermometer under the tongue will probably register one or two degrees lower than it did twelve hours before; the pulse will be stronger, and at first glance the patient will appear better. As you cast your eye down you will observe the patient's right leg drawn up, leg flexed on thigh, and thigh flexed on pelvis in such a manner as to relax the abdominal muscles on the right side. Ask him to straighten out the leg and he will sometimes do so with perfect ease. Wait two or three minutes and he will involuntarily draw it up again. Palpation over the region of the appendix will often reveal a swelling and always a localized painful spot on pressure, which pain is great or slight according to the degree of pressure applied and the point to which the disease has advanced.

For methods of locating the appendix see article by M. T. **Harris**, M. D., in *The Journal of the American Medical Association* of December 21, 1895. **Doctor Angus McLean**, of Detroit, locates it thus: Start one inch below the anterior superior spinus process of the ilium; draw a horizontal line four inches toward the median line; thence four inches perpendicular toward the umbilicus; thence four inches horizontal toward the right side; thence four inches perpendicularly downward to place of starting, when a line drawn from the superior internal angle (corner) of this square to the inferior external angle (corner) will, in the vast majority of cases, pass over the base of the appendix. It will be observed that this line is the hypothenuse of a triangle, starting at McLEAN's point of starting (one inch below the anterior superior spinus process of the ilium on the right side), going horizontal (patient standing) four inches toward the median line; thence four inches perpendicularly; thence to place of starting the hypothenuse or McLEAN's line. It should be remembered that in different individuals the appendix may extend in almost any direction from its base or attachment to cecum.

Only the gentlest pressure should be made, not only on account of the pain produced but because I believe it possible, in some cases, to rupture a pus sack and thus cause serious trouble, for there are cases in which the attacks are recurrent where the appendix is perforated at an early stage, and, pus flowing out into the peritoneal cavity, a pyogenic membrane is formed against the walls of adjacent structures—intestines, peritoneum, omentum, et cetera, thus inclosing the pus and forming a localized abscess, the walls of which, on account of their recent formations and fragile nature, are poorly fitted to resist rough handling.

With the above-mentioned change of symptoms present, the physician is justified in making a diagnosis of appendicitis, and turning his attention seriously to the question of treatment, which will be either surgical or medical as his judgment shall indicate, provided the family do not interpose an objection; but at this juncture the physician is placed in one of the most embarrassing positions it is possible for a medical man to occupy. Should he decide to treat the case medically, and should it prove to be of the suppurative variety, he is tormented with the thought that probably when the abscess breaks it will break into the peritoneal cavity and he will lose his patient, and he only breathes free again when, after from one to three weeks of anxious watching, by a lucky accident, the opening is effected in such a manner that the pus finds its way out through some of the natural passages. But if this lucky accident does not happen, and frequently it does not, all the consolation there is left for him lies in deluding himself into the belief that the fatal termination was unavoidable, and thus is added another to the already long list of peritonitis or inflammation of the bowels. If, on the contrary, he should elect to treat the case surgically, he will find it difficult to persuade the friends that an operation is necessary. They will say: "Why, doctor, he is better; he has not vomited since yesterday, the pain is about gone, fever is less, and he ate some breakfast. He has been getting better ever since you put on the turpentine stupes, et cetera." But now the fate of the patient often hinges on the doctor's confidence in his diagnosis and firmness in urging an operation. With all objective symptoms improved, yet slight pressure over the appendix will elicit pain, and if the condition be plainly stated to the friends of the patient, the operation will, in the vast majority of cases, be permitted.

Having decided to operate, *do not procrastinate, but operate at once.* If the operation can be done before the first forty-eight or fifty-six hours have elapsed your patient's chances of life are greatly increased; if delayed longer than seventy-two hours I do not believe the operation I shall describe to be practicable.

Before operating the bowels should be moved and thoroughly emptied and disinfected. This can only be approximately accomplished. The drug best meeting the indication in my hands has been calomel in one-half to two-grain doses each hour till ten to fifteen grains are given, or until the bowels move. I usually exhibit with each dose of calomel one or two grains of sodium sulphite which tends to overcome the acidity of the stomach and increase the cathartic effect of the calomel, the large amount of which given tends to somewhat disinfect the alimentary canal. Enemas may, and sometimes should, be used also.

After the large amount of literature already written on this subject it is not necessary to describe the technique to this audience, but as exigencies arise in nearly every case, making it different and causing complications that must be met differently in each individual case, some remarks on these complications may not be out of place here. There is no operation more simple than the operation for removing a normal appendix; neither can I think of an abdominal operation accompanied with less danger to the patient. You simply open the abdomen, ligate the appendix, cut it off, cauterize the stump, close up the wound, and if the work is aseptically done it heals by first intention and after a few days all is well; but in the inflammatory stage of suppurative appendicitis the condition being vastly different the work must be differently done. Examination as soon as the patient is thoroughly under the anesthetic (which I prefer should be ether) will reveal a bunch of larger or smaller size in the right iliac region. This being present, make the incision at the external border of the rectus abdominis muscle on the right side, and let it be large enough to admit three fingers about three inches. Cut carefully and slowly as some abdominal walls are much thinner than others. If the patient is a child (I have operated eight times on boys of about twelve years) the walls will be found to be only about three-fourths of an inch in thickness. When the peritoneum is reached, and it is found not to be adherent to the underlying structures, gently raise it with the thumb and finger, nick it, pass in a grooved directer and open to the required size. Introduce the index finger, make gentle and careful search for the inflamed appendix which, when found, will be easily recognized by its enlarged and swollen condition; now by gentle manipulation it may be brought to the surface, ligated, the stump cauterized with ninety-five per cent. carbolic acid, dropped back and the wound closed. Such is the technique in early operations on primary cases, and was employed in Case III to be reported tonight.

In secondary cases, on reaching the peritoneum it will probably be found adherent to the internal structures, and sometimes by the aid of tissue forceps, it may be slightly raised, nicked, a grooved directer inserted, the opening enlarged, and by the aid of the finger the peritoneum may be carefully dissected up and the inflamed structures exposed—now more carefully, for you may have an omental abscess which can be removed without rupture, but whether it breaks or not it better be removed and the diseased or inflamed portion of omentum ligated with numerous ligatures and excised. Separate the diseased from the healthy omentum with your fingers and place the ligatures in healthy tissue. Now search for and remove the appendix as before. If the abscess has been broken, as happened in Case IV of this report, the after-care will be modified thereby and will be explained later.

In other cases on reaching the peritoneum it will be found impossible to detach it from the tissues below, and on nicking it pus will flow out, in which event enlarge the opening and evacuate the pus. There you will find a pyogenic membrane adherent to the parts. Carefully search for the appendix. When found it will usually manifest evidence of having been perforated, as in Case V. Ligate above perforation and remove as before.

In all cases in which pus is present, if any has escaped into the wound, wash the entire wound with hydrogen peroxide, sprinkle in acetanilid, make ample provision for drainage, and after twelve to twenty-four hours, even though discharge is still free, if temperature rises remove enough stitches to admit of free flushing which should be done twice daily with a dilute solution of hydrogen peroxide, and acetanilid should be freely used as a dressing. In from three to six weeks the entire wound will he healed and the patient ready to be discharged.

There are cases in which the inflamed appendix has not been removed until nearly or about seventy-two hours have elapsed, when from contact with the intestines a gangrenous spot will be formed on the intestines as in Case II. Then the surgeon must decide whether to resect a piece and apply a Murphy button or not. Generally, if the operation can be completed without rupturing the intestine it will do well enough without the button. Probably during the healing process a fecal fistula will form but this will not materially retard the progress of the case. The fistula will close and the result will be as in Case II of this paper. But, if the operation cannot be completed without rupturing the intestine, a Murphy button should be introduced at once, and I believe that no surgeon should undertake this operation without having a set of these buttons at hand.

Before proceeding to cite cases permit me to say another word in favor of acetanilid as a surgical dressing. It is not, strictly speaking, a germicide, but it will more readily destroy pus cells and prevent the formation of new ones than any drug with which I am acquainted, and by freeing the wound of pus germicides can reach and destroy all organisms that, otherwise being buried in pus, would escape and continue their vicious work.

Case I.—Charles R., aged twelve years, received a bad fistic blow in the right iliac fossa on January 8, 1895, which was followed by pain, vomiting, swelling, constipation and high temperature—103° to 104°. I was called in consultation on January 18, and the operation occurred at 5 P. M. of that day in a farmhouse with only the attending physician, Doctor Doyle, a medical student, and the boy's stepfather to assist. No pus was found, but the intestines were bent and kinked so as to form a complete obstruction and held in this position by plastic adhesions which were broken up. The appendix was not removed as it could not be found, The patient made an uninterrupted recovery, the temperature never going above 101° after the first twelve hours.

Case II.—James R., aged forty-six years. A case of acute suppurative appendicitis accompanying la grippe. Operated after seventy-two hours and found the appendix greatly inflamed, and adherent to the intestines. It contained pus and fecal matter. The temperature was 103½° at the time of operation. Twenty-four hours later the stitches were removed and the wound flushed. Two or three days afterward a fecal fistula was formed which, however, healed and the patient made a good recovery.

CASE III.—G. J., aged eleven years. The operation was performed after fifty-six hours. Temperature, 103°. Appendix enlarged and inflamed; removed. The interior contained about one drachm of pus and fecal matter. The wound was aseptically closed and healed by first intention. The patient made a splendid recovery and was discharged after sixteen days. There was no rise of temperature after the operation.

CASE IV.—H. M., aged about thirty years. I was called in consultation, and operated after seventy-two hours. Temperature, 103°. The appendix was removed; an omental abscess, holding about four ounces of pus, was evacuated and fully one pound of omental tissue (inflamed and thickened) was removed. The wound was treated open and the patient made a good recovery, being discharged after five weeks.

CASE V.—F. H., aged twelve years. I was called in consultation, and operated after about seventy hours. Temperature, 103°. The appendix was perforated and a very fragile pyogenic membrane had formed; also an omental abscess, which was evacuated and about three-fourths of a pound of thickened and inflamed omental tissue removed. The wound was treated open and a good recovery ensued, the patient being discharged after four weeks.

In all these cases acetanilid was used as a dressing.

TRANSACTIONS.

DETROIT MEDICAL AND LIBRARY ASSOCIATION.

STATED MEETING, MARCH 10, 1896.

THE PRESIDENT, ERNEST T. TAPPEY, M. D., IN THE CHAIR.
REPORTED BY WILLIS S. ANDERSON, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR HARRIET A. GERRY read a paper entitled "The Gehrung as an Expedient." (See page 303.)

DOCTOR WARNER: I was very much interested in the paper presented by the doctor this evening. I did not know that the Gehrung was used so generally. I have used it myself with a great deal of satisfaction in many cases of cystocele in old women, but have not been so successful with it in procidentia. In cases where the procidentia is complete it is not of very much use. There is a modification of the McIntosh pessary which I have used in cases of procidentia in old women where the parts are protruded far out, that acts well. I know that it is the general idea that anteversion is rarely pathological. I do not myself believe that it is very often pathological, yet I think there are some cases in which the anteversion is connected with a slight degree of prolapse even where there is no cystocele. I have seen it produce considerable disturbance in young women, and have used the Gehrung in these cases with a great deal of satisfaction.

DOCTOR WEBBER: My experience is entirely negative. I read about this subject several years ago in the text-books. I used such as GRAILY HEWITT and others. I have had some success in cases of cystocele by performing an operation. On the whole, operations have not proved as satisfactory as we could wish for. Plastic operations—removing certain portions of the mucus membrane for the purpose of diminishing the size of the canal—have given fairly good success. In procidentia I have used the McIntosh pessary and have been advised by those who have worn them that they have gotten considerable satisfaction from their use.

Doctor Carstens: Such an interesting paper should not be allowed to pass without discussion. I think the doctor has shown what can be done by the intelligent use of the Gehrung and other pessaries. Anteversion of the uterus is not very common. Occasionally one comes across cases where the Gehrung is demanded. It is an excellent instrument in certain cases, and where an operation is not indicated such a pessary will be found useful. Where one employs a pessary with an external support, such as a silver wire or perineal band, it proves very irritating to a patient. Again you frequently meet with cases where the perineum is so relaxed that any kind of a pessary will fall out and where a vaginal hysterectomy is the only treatment. Although I am a friend of the pessary I look upon it as affording only temporary relief. Take the case of a young woman, for instance—she does not want to wear a pessary all her life. In old women it is different.

Doctor Sprague: I have used the Gehrung considerably for anteversion. I have never used it for procidentia, and in many cases of cystocele probably the reason why I did not get better results is that I did not use a large enough size. In those cases in which, for any reason, an operation is not desirable and in which we can give relief by adjusting a pessary we should do so. I have used the ring pessary for cystocele and have had much satisfaction from its use. I think the Gehrung is the best anteversion pessary we have for the majority of cases.

Doctor Gerry: I think the Gehrung has infinite advantage over the McIntosh. In patients who have arrived at that age of life where they become very stout the perineal band in the McIntosh is very irritating. Women rather suffer from the cystocele than wear a McIntosh. In cases of complete procidentia where the whole uterus was outside of the body I have applied the Gehrung which would be retained after all others had failed to give relief. The particular size is an important point in the application of pessaries.

STATED MEETING, FEBRUARY 24, 1896.

The President, ERNEST T. TAPPEY, M. D., in the Chair.
Reported by WILLIS S. ANDERSON, M. D., Secretary.

Doctor Charles B. Nancrede, of Ann Arbor, read a paper entitled "Some Surgical 'Sins of Omission.'" (See page 352).

Doctor Longyear: I do not know just why I have been selected to open a discussion upon injuries to the head. It is not exactly the domain of surgery upon which I am accustomed to talk. I wish to speak upon one subject only and that is the subject of disinfection. That, nowadays, is the great basis that underlies success in all surgery, and I think the emphasis the doctor has given to it is very proper and very timely. These injuries to the skull in general practice do not receive sufficient attention and, for the very reason the doctor has stated in his paper, the wounds become infected and often result disastrously.

Doctor Walker: This is a subject that is overlooked by very many of us. I frequently see cases in which the hair has been clipped off probably a quarter of an inch around the margin of the wound, and adhesive plaster applied, and possibly some sutures inserted, and when the case comes under my observation it is quite likely to be suppurating. I am going over this very subject before my class in the college. There is no wound of the scalp, however insignificant, but should be treated with the greatest amount of care. I have frequently seen the little wounds, such as have been related by **Doctor Nancrede**, attended with serious difficulty. No part of the body is so amenable to asepsis as the scalp and the brain. I can recall cases in which insufficient examination of injury to these parts has proved disastrously. I wish to relate a case, exhibited a few years ago to this society, in which I removed a clot of blood from the brain. The man was found lying in the street and had been removed to the station by an intelligent policeman. He was sent to the hospital and treated for apoplexy, and I was called in to see him, but upon examination I did not find any external evidence of injury. It was very plain to me, however, that this man was suffering from compression of the brain due to a ruptured blood-vessel. I ordered the head to be thoroughly shaved and proceeded to trephine, and as I expected, I found a large blood clot which I carefully cleaned out and the man recovered. I recall another case, where a man lay in the hospital for ten days. He had fallen from a scaffold and a piece of the skull bone was driven right into the brain. I made a diagnosis of fracture, took out a spicula of bone and removed a clot of blood and the man made a perfect recovery.

Doctor Carstens: The subject of this paper is not exactly in my line, but it teaches us one lesson, and that, as **Doctor Nancrede** says, is a truth that cannot be reiterated too often, that is, the superficiality with which patients are treated. I think that this cannot be considered too frequently. It is that perfect thoroughness, considering everything the most serious, that makes aseptic surgery of the present day the success which it is. Be a crank on the subject of microbes, like my friend **Doctor Walker**, who can hear them sing, and leave nothing undone to keep them out of wounds. Make frequent examinations, and look each case over carefully and thoroughly. General practitioners are too superficial. Patients do not get well and they fall into the hands of the surgeon when too late to avail anything, and as a consequence they die.

Doctor Sprague: I would like to ask the writer of the paper one question. When an injury to the head occurs in a child is it a rule that the child must not be allowed to sleep, that it must be kept awake? I would like to ask is there any reason in allowing the child to sleep?

Doctor Hitchcock: I would like to testify to the great interest I have in this valuable paper by **Doctor Nancrede**. It discusses a subject of importance to us all. It occurs to me that we are sometimes forced into mistakes in many of these cases which appear so trivial but which may be fraught with great danger. Patients positively refuse to let us make an examination. I saw such a case last Saturday, in which I was forced to introduce three sutures into the wound. It was that of an obstinate German who said he was afraid to submit to the influence of chloroform, having read in the paper that a man had died under the anesthetic. I have seen many cases of these scalp wounds, and have tried to treat them as thoroughly aseptic as possible, and have not as yet had any bad results. The other morning I was notified that a man had been hurt by a gas pipe falling upon his head. When I saw him he did not seem to suffer much pain but was breathing with the Cheyne-Stokes respiration. Examination showed the right pupil moderately dilated, the left one strongly contracted, and there were spasmodic twitchings of the lids. It was apparent that speedy death was approaching. Inside of five minutes after I first saw the man his head was hurriedly shaven and the parts made aseptic, and I immediately trephined. I removed a button of bone and cleaned out the fractured portion, and the patient's condition, which had been very precarious, grew better, respiration improved, the pulse became strong, and the man is still living and in a fair condition. The patient was totally unconscious on the day of the injury. The operation was made without an anesthetic. After the operation he responded to questions made to him, but the right arm and right leg were hemiplegic. I again placed him on the operating table, but did not find anything to warrant further operative procedure. I am confident that only the very promptest kind of surgery at that time saved the man's life.

DOCTOR ROBBINS: How much of a clot did you find?

DOCTOR HITCHCOCK: I did not find a clot but there was hemorrhage at the time of the operation.

DOCTOR NANCREDE: I simply want to call attention to the fact that in my remarks I said "shave the head at least an inch, preferably much more, around the scalp wound." I did not want to be too hard on the general practitioner who has a great deal to contend with, but if he starts out with a low ideal, saying to himself—"Oh, well, the vast majority of cases will get well anyway," he is very certain to make very few and very inefficient efforts at asepsis, whereas if he feels that every little scalp wound endangers life, and has in view the most perfect aseptic precautions, and exercises the same precautions as if he were going to remove a brain tumor, I think he will have better results. I do not believe that every scalp wound results as badly as I have depicted, but if a single one does, you are guilty. They are a great deal more frequent than you imagine. In answering the question about allowing the patient to go to sleep, my idea of it is that in cases of intracranial hemorrhage they become unconscious from compression of effused blood. He has gone to sleep because he was not kept awake. It is the proper thing to let the lacerated brain rest just as you allow rest to any other lacerated part of the body. Let it be kept quiet. There is a chance to obtain a clot in the blood-veseel if quietude obtains. I contend that you must carefully watch the patient and satisfy yourself whether the condition is sleep or coma.

STATED MEETING, MARCH 16, 1896.

THE PRESIDENT, ERNEST T. TAPPEY, M. D., IN THE CHAIR.
REPORTED BY WILLIS S. ANDERSON, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR A. E. CARRIER read a paper entitled "The Use and Abuse of Dermatological Affections." (See page 307.)

DOCTOR BIDDLE: In opening the discussion of DOCTOR CARRIER's valuable and instructive paper, as the ground taken by him has been so thoroughly and ably covered, I can but enforce by repetition some of the facts stated as regards the action of arsenic. Though there exists a difference of opinion with regard to the value of arsenic for cutaneous medication it has long stood and does still stand at the head of the list of therapeutic agents for the relief of certain diseases of the skin. That it is used too indiscriminately and with positive harm there can be no doubt; but neither is there any question but that, when used with judgment in selected cases, it is without a peer. It is with this as with all other remedies, to get good results it must be employed intelligently and with a full knowledge of its action and the limits of its powers. Whether the essayist's theory, as regards the local action and elimination of arsenic, be correct or not I am not prepared to say; but from experience we judge that it acts in two ways, *locally*, by selection as it were, on the diseased tissues, and *generally*, as a stimulant to the nerve centres and indirectly to the peripheral ends of the nerves. Crocker says that "possibly the greater instability of the cells of the diseased area may, to some extent, account for this apparent elective affinity of the arsenic." Thus arsenic acts principally upon the mucous layer of the epidermis, stimulating its nutrition. Its influence upon the economy is to aid digestion and nutrition, to stop retrograde, and to stimulate constructive, metamorphosis. Acting thus upon the rete, it is of greatest benefit in those diseases limited to the superficial areas of the skin, especially when they have passed into the stage of subacuteness and chronicity, requiring weeks and sometimes months to accomplish its object. Its stimulation of the rete mucosum, when rest is necessary, debars its employment in the inflammatory stages of cutaneous affections, be they in acute or renewed activity. Its action is injurious to rapid cell change, only adding fuel to the fire. Thus arsenic is useful through internal or hypodermic means in the treatment of the chronic stages of psoriasis, in the papular and squamous conditions of eczema, in the later history of lichen ruber, in lupus and in other diseases whose nature is chronicity. As has been stated this evening, its administration is at all times attended with the hazard of producing toxic effects, such as described by the essayist, which should always be avoided; puffy eyelids, redness of the conjunctivæ, gastrointestinal irritation, or the production of a mild exanthem should be warning sufficient to stop medication altogether, or at least to diminish the quantity of the drug ingested or suspend for a while its administration.

Doctor Bonning: I was struck by the remarks contained in the paper regarding the common use of arsenic among the laity. I know of patients here in the city who keep a two-ounce bottle of Fowler's solution on hand, and say they use it all the year round. It is not one single case of this kind that I know of, but several. It had been prescribed for them and they received benefit from it. They took the trouble to find out what it was and now they use it continually. I think we should be very careful in prescribing such large quantities of this drug, and we should not use it indiscriminately. Doctor Carrier has pointed out its dangers very strongly in his paper.

Doctor Warner: It would never occur to me to use arsenic in zoster. Zoster is a self-limited disease and gets well promptly without such medication. I think it is of use in acne, and have seen several cases of this disease get well under its administration. It is my experience, as Doctor Carrier says, that it is especially useful in any skin affection accompanied by blebs. I have never seen any discoloration following its use, but I have always regarded dyspeptic symptoms and puffiness of the eyes as a dangerous signal demanding either the stoppage of its use entirely or very much diminishing the dose.

Doctor Parker: There is oftentimes very much said about the too-frequent and long-continued use of arsenic. It seems to me a good deal can be said in support of that method of treatment. I recall two cases in both of which eczema had existed for years and had been under treatment by various physicians for perhaps fifteen years. The patients came to see me and I was asked to prescribe. I gave six-drop doses of Fowler's solution and in about three weeks the trouble cleared up entirely. Possibly they had taken it before, and in larger doses, but it had not been continued long enough. Drop doses increase the appetite very much, showing that it has a tonic effect on the system.

Doctor Ives: I recall a case of chronic eczema that came under my observation. The patient had been treated for a good many years without any lasting benefit. I put him on three-drop doses of Fowler's solution three times a day and in a very few days he became so much worse that it was distressing to look at him and he was ashamed to leave his house. I suspended the drug immediately and it was about three weeks before he ventured out. I then put him on protoiodide of mercury and he got well promptly. I remember two other cases of the same character which I put on protoiodide and they also got well. I could not find out any history of specific disease.

Doctor Carrier: As regards the physiological action of arsenic, I view it differently from what many do. I do not believe it is anything but an irritant in its action. If you take it into the stomach it is an irritant. It passes out of the stomach into the circulation and is still an irritant, in fact it is an irritant up to the moment of its elimination. It is only a theory of mine regarding its elimination, namely, that the drug passes through the cells of the epidermis into the juice spaces and through these into the sweat duct, out of which it passes with the sweat. That it is selective in its action is undoubted, the epidermis being the organ selected. In my paper I did not state that I gave "Fowler's" in zoster. I simply said that arsenic produced a neuritis by irritation of the terminal filaments of the nerves and that zoster was a neuritis. If I found that arsenic was being eliminated through the sebaceous glands, I might use it in acne. I have never seen a tabulated report of any series of a considerable number of cases of any disease of the skin in which arsenic was the only remedy used. I would use the drug in cases of chronic eczema that had resisted other treatment. I stated in my paper that Fowler's solution was liable to deteriorate with age, the loss of arsenic amounting to as much as fifteen per cent in specimens that have stood for several months. If this preparation should be given it is evident that we are not getting the amount of arsenic desired, and failure to cure may be due to this cause. Arsenic should be given for a considerable period of time before we are satisfied that it will not produce good results. Regarding the amount of the drug to be given, I think it is best to give it in doses large enough to produce a rapid impression. I am free to add, however, that I do not teach this method of administration; it is safer given in small doses. There are certain vesicular eruptions occurring upon the dorsal surface of the terminal phalanges of the fingers, which are painful, slightly swollen, rapid in onset, and pursuing a course of three or four weeks, that will yield quickly to frequently repeated doses of arsenic. Divide the quantity to be given in twenty-four hours by twelve, or twenty-four, and give that dose every hour, or every two hours. Large doses of arsenic should be given when there is food in the stomach. It is a well-known fact that toleration of the drug is established by its use. The arsenic eaters of Styria consume large quantities, and keep it up for long periods without producing toxic effects. The claim is made that by its use they are enabled to carry heavier loads, and over higher altitudes—a similar effect to that ascribed to the kola nut.

Doctor Miner: Why would not Doctor Carrier commence with large doses of arsenic? That is the rule laid down in our text-books—to begin with large doses and go down.

Doctor Carrier: I did not know that most of our text-books on therapeutics stated that we should commence with large doses and go down. I think most of them claim you should begin with small doses and go up, and if you get the constitutional effects drop it or give smaller doses. I would not teach students to begin with ten or fifteen drop doses. I might give ten drops to ninety-nine persons out of one hundred and poison the hundredth. When you get poisonous symptoms discontinue the medicine as you do the protoiodide of mercury when treating syphilides.

Doctor Miner: Are not the cumulative effects more dangerous than the rapid effects of the drug, and have you seen any serious results following the giving of large doses?

Doctor Carrier: The toleration of the system to the use of arsenic is wonderful. There are very few cases where poisoning results from the accumulation of arsenic.

CORRESPONDENCE.

MEDICAL LEGISLATION.

To the Editor of The Physician and Surgeon:

An organization calling itself "The Michigan Medical Legislation League" has in a printed circular appealed to you and to me for aid and comfort in its efforts to accomplish a certain self-imposed task, namely, "to secure through organized effort just and equitable laws regulating the practice of medicine in Michigan, and to promote the interests of the medical fraternity." Truly a noble object and worthy the utmost effort of every lover of science and every friend of humanity. The Executive Board of the League consists of five irregulars and two members of the regular profession, according to its printed circular.

For almost a quarter of a century in this state, I and my professional associates have labored and waited and hoped for the successful accomplishment of this, which is plainly declared to be the main "object" of the "Legislation League." It is needless to say that its attainment is as dear to our hearts today as it ever was. We stand ready now as in times past to do anything and everything within the bounds of honor and decency to secure legal medical protection for the sick and the suffering. It is therefore with extreme sorrow that we feel compelled to say that the course of procedure and policy publicly avowed by the "Legislation League" is, in our opinion, deserving only the pity and contempt of every true friend of regular medicine and every individual who sincerely wishes to do what he can for the relief and protection of the sick and injured.

The plainly avowed ultimate "object" of the so-called league is the securing of an act of the legislature as follows: "*A Bill* to establish a Board of Registration and to regulate the practice of medicine, et cetera." Of this proposed bill Section 1 reads—"The people of the State of Michigan enact that the Governor shall appoint nine physicians, residents of the state, *not more than four of whom shall be regular*, two homeopathic, two eclectic, one physiomedical [whatever that may be] who shall constitute a Board of Registration in medicine." Section 3 reads—"All persons engaged in the practice of medicine and surgery in any of its branches and all who wish to begin the same in the state shall apply to this Board to be registered and for a certificate of such registration."

If this bill had originated with nonprofessional politicians, or with the quacks and irregulars, the pitiful degree of recognition accorded the adherents of science and the followers of every great and noble name in medicine and surgery from HIPPOCRATES to PASTEUR and LISTER might have been dismissed with a smile of ridicule and contempt; but coming as it appears to come from men who still profess loyalty to honest scientific medicine, words fail us to adequately express our amazement and humiliation. The regular profession of Michigan numerically exceed all other so-called schools or sects in the proportion of two to one. In the matter of talent, education, character and influence, the difference is surely immensely greater. Can it then be possible that the representatives of the great profession of honest scientific medicine in this state are ready and willing to join forces with every quack and pathy and sect for the purpose of securing a law which in the most practical and unmistakable manner declares the inferiority of regular and superiority of irregular medicine? Many years ago the profession of this state submitted to a severe rebuke at the hands of the American Medical Association for having even thought of a somewhat similar proposition. Can it be possible that at this late date the regular profession in Michigan feels itself so feeble and unable to maintain itself that it stands ready to defy the public professional sentiment of this and all other lands, and in the hope of obtaining a little milk and water degree of protection (for themselves rather than for their patients) enter into a combination and unholy alliance with its most insidious and meanest foes and place the balance of power in the hands of the enemy.

The occasion is in our opinion very critical. The honor and the good name of our profession in Michigan is at stake. It is not yet too late to rescue that good name and keep it safe from disgrace and misfortune. For myself and others who love and honor our profession, we earnestly implore the members to come forward at this time and openly assume the only attitude consistent with the honor and the best interests of the profession. Let us earnestly and persistently oppose any and all legislation which tends to increase the power of the quack, the charlatan, and the sectarian, while it degrades and humiliates the only real school of medicine, that, namely, which rises above all pathies and all sects and seeks only the welfare of the sick and suffering, and in doing so eagerly accepts anything and everything which holds out reasonable hope of being practically useful.

Let us as a profession demonstrate by our lives and our works our claims to legislative recognition and convince the people that *our* interests are *their* interests. Legislation so earned and secured would be a glorious triumph for science and for humanity. Legislation obtained by compromise and abdication and unholy alliance with everything and every creature in the nature of a medical parasite only confers upon the latter undeserved honor while it stamps the word shame upon the brow of each one of us in Michigan who claims to be the best of his ability, the representative and the exponent of the noblest of all the professions.

Perfection cannot be claimed for any man or set of men, and we have no choice but to confess to many failures and imperfections on the part of the regular profession in this state and everywhere else. Nevertheless, the fact remains that our aims avowedly are higher, and in practice our record incomparably grander than that of all the other so-called schools and sects combined. Why, therefore, in the name of all that is true and good, should we condescend to join hands with any sect, school or pathy, thereby uplifting that which we condemn and despise, and at the same time dishonoring that for which we have always been willing to give all we have and to do all we can to protect and save?

DONALD MACLEAN.

DETROIT, July 20, 1896.

* * *

TO THE EDITOR OF The Physician and Surgeon:

The few remarks I have to make in connection with DOCTOR MACLEAN'S letter which you have handed me, do not deserve to be called a reply. As corresponding secretary of the organization of practitioners and one whose name is on the first circular mailed, I desire to say:

(1) The name of the organization is the "The Michigan Medical Legislation League."

(2) The executive board is composed of nine members (Constitution: Article IV, Section 1). It happens that five are regular practitioners although special prominence was not attached to this point.

(3) DOCTOR MACLEAN was present, I believe, at the preliminary meeting of the profession when the organization of the league was under consideration. Even though he might not have been present he was informed of the work proposed and therefore has no reason to refer to the organization in such a foreign way.

(4) Our task is not self-imposed but is inherited from able, sturdy, conscientious professional fathers, who have given too little thought to the scriptural mote and beam lesson and have been extreme in their methods.

(5) The bill sent out has the approval of the officers of the league. The very fact that it has been placed thus early before practitioners is conclusive that the officers sought suggestions for the bill to be finally presented to the legislature.

(6) The movement now on foot is in the interest of all registered practitioners as well as the public. No action can be taken ignoring those practicing under the present law, a law unsatisfactory though it be, which was enacted in response to those desiring a higher standard of medical education. There is no occasion for a jealous insistance upon what from some standpoints may be considered a just representation. School is, for the time, of secondary consideration. Boards of health are appointed without regard to this just representation, as in our city. We have one regular physician, one homoeopathic, one lawyer and one business man. The examining board in many states is the state board of health made up thus of laymen and physicians. While we agree let us not ask about school representation.

(7) I have no fear of the result to the regular profession of the workings of a board made up even as the bill sent out proposes.

a—I have no doubt in my own mind that any studied attempt on the part of the members other than the regular to control the organization to the harm of the regular profession (something, by the way, of which I have not the slighest fear) would immediately result in doing away with the board.

b—Many representative states make no specification, whatever, as to the makeup of their examining boards. Maine, Massachusetts, Minnesota, South Carolina, and Washington are in the list. Only three states specify definitely the membership of the board.

c—How will the interests of the regular profession be jeopardized by the operations of the board? There has been provided opportunity for appeal from its decisions, so that the chance is minimized of any great wrong being done.

In conclusion, I regret that DOCTOR MACLEAN should take what seems almost a disloyal step by opposing the efforts of the league at this time because of his objections to certain provisions of a *proposed* bill. I think he should rather have exerted his efforts within the organization to secure a bill of which he could approve. Failing in this and upon the adoption of a bill objectionable to him, a dignified statement of his objection might have been made, free from the intemperate use of such terms as parasite, quack, unholy alliance, most insidious and meanest of their foes—language which always does more harm than good.

E. S. SHERILL, M. D.

DETROIT, July 27, 1896.

* * *

TO THE EDITOR OF The Physician and Surgeon:

The Michigan Medical Legislation League is the outcome of a series of public meetings called (through the newspapers) by the Wayne County Medical Society (regular) for the purpose of enlisting the cooperation of all registered practitioners of medicine in this state, in an effort to secure from the next legislature a law to establish an adequate standard of qualification for all persons who may desire to practice medicine in Michigan in the future. These meetings were composed of all sorts of medical practitioners, *many* of whom were "regulars" *good* and *true*.

The sentiments expressed in DOCTOR MACLEAN's open letter are good; but his sweeping censure of the organization in question, would seem *mal apropos*, inasmuch as "The League" is merely a political body, with no object or purpose except the one set forth, namely, that of promoting legislation for the protection of the people from future unqualified practitioners of medicine. The league is not, strictly speaking, a *medical* organization. There is no question of medical ethics *really* at issue, and no creed to be assailed or defended. It is no more "an unholy alliance" than a combination of Catholics, Lutherans and Presbyterians, when made for the attainment of some common secular object.

Now, as *any* person in Michigan in possession of *any sort* of medical diploma can become a legalized practitioner of medicine upon the payment of *seventy-five cents*, consequently each and every one who has thus registered at the county clerk's office is upon the *same legal plane*. Thus, "before the law" (as it now exists) the educated and the ignorant; the christian and the charlatan; the gentleman and the drunkard are all on an *equality;* and legislature as well as courts *do*, and always *will*, recognize such vested rights. Moreover, our (regular) efforts at convincing the people and the politicians of the wisdom of adopting measures which *we alone* have devised and promulgated have *always* failed, as the history of medical legislation not only in this state but in every other state in the union attests. It is therefore practically useless to attempt the achievement of any medical legislation unless the majority of *all practitioners* of *all sorts* acquiesce in the movement!

Obviously, then, it would seem to be the *patriotic* duty of every regular practioner in Michigan to throw aside phariseeism and heartily aid this organization in its efforts to promote legislation for the protection of *humanity* and the general elevation of the standard of medical practitioners. The doctor is in error when he states that there are but two regular practitioners on the executive committee. On the contrary, there are five "regulars," three homeopaths, and one eclectic including the local officers.

E. L. SHURLY, M. D.

DETROIT, July 31, 1896.

* * *

TO THE EDITOR OF The Physician and Surgeon:

In response to your queries respecting the proposed medical legislation in Michigan, I think—

(1) The right sort of medical law is desirable, for the restraint of such as are not influenced by those considerations which actuate educated gentlemen.

(2) On the whole the practical operation of medical laws has seemed to me to have been beneficial to both people and profession.

(3) The state board of health has quite enough work, without being burdened with the duties of medical examiners; hence it seems to me wiser that there should be an independent board.

(4) The representation on the board gives to the eclectics a larger proportion than their number in this state warrants; also it would better accord with the facts, if the word "regulars" was substituted by the designation, "physicians." Thus I would have the board composed of five physicians, two homeopaths, one eclectic, and one physiomedical.

(5) I think it would be unwise to leave to the governor the composition of the board, as being a nonmedical man he would be quite unable to arrange it fairly. We are likely to suffer sufficiently from the fact that he is responsible for the appointments, as he will necessarily appoint those whom he knows to be his political friends, rather than those who would execute the provisions with the largest intelligence, in the interests of all.

The vice of all medical legislation lies in the fact that it is so liable to be employed for the promotion of individual interests at the expense of the general good. This vice is so prominent, in the operation of existing medical laws, that large numbers of the brightest and keenest observers believe that it were better to avoid any entanglements with law making bodies, beyond those already existing upon the statutes, and applicable alike to every citizen.

If any class of medical schools is to have its graduates licensed without examination, it should be those which require an A. B. degree or its equivalent as a condition of entering upon the study of medicine, and four full years of medical college study of eight months each, said study to have been principally in laboratories and hospitals.

The compensation of the medical examiners is far too small. It should be not less than ten dollars per day, as in this matter the worker ought to be adequately paid. A physician who is not worth more than five dollars per day should not be appointed. We want the best men and are quite willing to pay them for a delicate and difficult service.

Lack of space prevents farther consideration of the text of the law before us.

Respectfully yours,

LEARTUS CONNOR, M. D.

106 Cass Street, DETROIT, MICHIGAN.

* * *

TO THE EDITOR OF The Physician and Surgeon:

Sir—I notice that a number of physicians of Michigan have organized themselves into a league for the purpose of suppressing quackery in this state, by legislative enactment. They propose to accomplish their purpose by authorizing the governor to appoint a board of nine physicians to examine all candidates who may apply for the right to practice medicine.

Personally, I am opposed to this plan for the following reasons:

(1) We have a medical department in our university supported by the people of this state, and the faculty there employed is amply qualified to examine all applicants for the privilege of practicing medicine in this commonwealth.

(2) This faculty is paid a salary by the state and it is therefore useless to empower the governor to appoint nine physicians to conduct the examination of medical candidates, when the work could be satisfactorily performed by said faculty.

(3) These nine physicians will require quite a sum to support them and their office, and it would be an unnecessary expense to the state.

If the legislature should enact such a law as this league proposes, let us abolish the medical department of our university, as we would then have no use for it. I would suggest that all applicants for leave to practice appear before the medical faculty at Ann Arbor and be examined as are other students, and receive their diplomas direct from said faculty.

I wrote a medical bill about twelve or fourteen years ago, and it was acted upon but the quacks lobbied it, and so amended it that it failed of passage. It was killed by the five-year clause. Since then I have not interested myself in the direction of medical legislation. I am in favor of a law to suppress quackery, but I am opposed to the appointment of a board of nine physicians to act as examiners when the duties of this body can be efficiently performed by our medical faculty.

It seems to me that some of our doctors want a job to increase their exchequers.

GEORGE W. MALLORY, M. D.

GRAND RAPIDS, July 29, 1896.

* * *

TO THE EDITOR OF The Physician and Surgeon:

Dear Sir—Your circular letter in regard to the medical act proposed by the Medical Legislation League, and the accompanying interrogatories are received. It is with pleasure that I reply, for I believe it is the imperative duty of all the friends of scientific medicine not only to speak but to act also, and prevent the degradation proposed by the league. The representatives of regular medicine in that league seem to have forgotten their duty to the regular profession, and to have willingly joined in the effort to surrender the control of medical practice in this state into the hands of irregulars. If this attempt at betrayal does not meet with vigorous opposition from regular practitioners, a great outrage will be consummated and the adherents of regular medicine will be allowed to practice only by humiliating themselves by submitting to examination by a board, the majority of whom are irregular practitioners; in effect, graduating from an irregular school.

In reply to your first interrogatory, I will say that I believe a medical act desirable. In May, 1871, I expressed my views on this subject in the form of an editorial article which I wrote for *The Michigan University Medical Journal*, and which appeared on page 176 *et sequentia* of *The Journal* for that month. In that article I think I demonstrated not only by arguments but by reference to history, that a law requiring a thorough knowledge of the fundamental sciences, and of the more settled principles of medicine of all who engaged in its practice is not only necessary for the protection of the people, but also to the most rapid advancement in the art of healing, and that the neglect to pass such a law is contrary to public policy as shown by the genius of our system of law, and the statutes protecting society in other respects. I think the arguments I then used are sound, and am still an earnest advocate of them. I also then suggested the foundation of a fair and equitable medical law which, also, I am at present willing to advocate.

I answer to your second interrogatory that so far as my observation goes such laws have generally been conducive to a higher standard of qualification, and have greatly reduced the number of quacks, and have driven the worst class of them completely out of the localities where the most efficient of these laws have been put into operation.

In answer to your third question I will say that I am in favor of a separate board of medical examiners if it can be rightly constituted, and it should be no more difficult to get such a board established than to secure the appointment of members of the Board of Health competent to carry on the required examinations and to do justice to the public and the profession.

The fourth interrogatory I have already partly answered at the beginning of this letter. The law which is recommended by "The Medical Legislation League" will, if passed, give to irregular practitioners absolute control of the standard of medical qualifications that shall be required by law in this state. According to the circular issued by the league this bill, providing for a board composed of four regulars and five irregulars, is favored by the executive board and vicepresidents of the league. Of the vicepresidents five of the ten are irregulars. There are three homeopaths, one eclectic and one physiomedicist. I was informed by one of the regulars a few days ago that he was not consulted in the matter at all.

Of the executive board, three of the five are irregulars, two homeopaths, and one an advertising physician. The following is one of his advertisements taken from *The Detroit Journal* of recent date:

> SPECIALIST in private or delicate and all chronic diseases. Confidential. Call or write, DOCTOR COVEY, 6 Madison avenue, Detroit, Michigan.

So this bill that is offered by the league, and the passage of which we are asked to secure, is presented by a body of men the majority of whom are irregulars.

As the Medical Legislation League is a political organization, the medical acts and opinions of its members are no longer private matters, but one of public interest and concern so far as they relate to the relations which should exist between regular and sectarian practitioners, and it is our duty to consider them, otherwise I should not refer to them here.

When we consider the medical bias of the principal officers of the league, regular physicians may well hesitate to delegate to them the important matter of looking after the welfare of scientific medicine at the next session of the legislature. Their devotion to regular medicine, and their opposition to its enemies may well be doubted. The president, though a regular physician, I am credibly informed, has referred his patients to a homeopathic specialist for treatment, while two of his colleagues engaged in the same specialty had offices near his own. Either of these colleagues are generally regarded by the profession, I think, as more scientific, and men of better standing; and had the welfare of the patient, or the just claims of scientific medicine been considered, it would seem that one of them should have been preferred. The recording secretary of this league is a homeopathic physician, and the corresponding secretary, who is a regular, seems so impressed with the scientific attainments of the homeopath that he gravely informed me a few days ago that the homeopaths teach more science in their medical school than regulars do!!! The treasurer of the league, also a regular, claims that it is proper to consult with homeopaths.

Now, I do not call in question the right of these individuals to think and act in these matters as they please, nor will I stop here to argue whether their views and acts are correct, but I may venture to say that they are not in harmony with the views of a majority of regular practitioners, and considering the facts I have stated, I ask in all seriousness and kindness, is this league a proper one to be entrusted with a matter that so vitally affects the welfare of regular practitioners, and the public as well?

Howevermuch irregulars may differ among themselves they are united in their opposition to scientific medicine and scientific methods of study. Regular physicians believe in studying nature and learning by what laws she is governed instead of asserting imaginary laws for her as do homeopaths and other irregulars. They recognize the fact that just as a belief in witches and many other absurdities have been driven from respectable society by a more accurate knowledge of the laws of nature, so the dreamy absurdities of irregular systems in medicine are to be corrected only by extensive study in chemical, physiological, pathological and other laboratories where scientific habits are formed, and medical students are taught how to investigate with accuracy and success any subject to which they may turn their attention. To see that the candidates for medical practice are well drilled in these sciences, and that they have acquired skill in the proper methods of scientific investigations, is one of the most important functions a board of medical examiners has to perform. A board controlled by irregulars would never demand this. They dislike science and its methods, and would insist on passing the graduates of all their schools, where such studies are imperfectly taught. Students thus taught in the sciences are not sufficiently receptive of their dogmatic sectarian creeds. Science broadens the mind too much for them. From twenty years of observation of one of their schools in the University of Michigan I have seen this fact plainly demonstrated. At first the homeopaths pretended that they wanted their students to study science thoroughly. But they could not stand it, and a few years ago demanded that their students should not be examined by the teachers of these branches (the only persons competent to do so), and they forced the regents into compliance with this demand. So that homeopathic graduates of the University can now be turned loose upon the public with but little knowledge of the sciences underlying the practice of medicine. They have also admitted to the classes of this irregular school students that the regular faculty had refused to admit because of want of proper preparation to enter upon medical studies.

The principal reason why many homeopaths wish their school removed from Ann Arbor is, without doubt, that they may establish a school where less science is taught, and still have diplomas granted by the University. Some years ago a prominent homeopathic physician of Detroit wrote me asking that I would use my influence to get their school removed to this city, and he outlined the course of study they intended to establish. Homeopathic practice was to have a full chair, and so was homeopathic materia medica, and the salary of each professor was to be two thousand dollars a year. Anatomy and physiology were to be taught by a lecturer with term of service of one or two months, with a salary of from two to three hundred dollars! No provision was to be made for teaching chemistry or any other science!

Can we expect to elevate the standard of medical education and elevate the profession through the action of a board of examiners controlled by men like these?

In all fairness the majority of such a board should be composed of regular physicians. But suppose the regulars, though outnumbering all other practitioners in proportion of two to one, wish to be *very* magnanimous. Let them propose a board of eight members, four of whom shall be regular physicians and four irregulars. This would not be an *abject surrender* as this league has proposed. The University of Michigan is governed by a board of eight regents, and though there is sometimes a "tie" they manage to get along. A bill to regulate the practice of medicine was once passed by the house of representatives in which it was provided that the examiners in anatomy, physiology, chemistry and state medicine should be appointed from among the eminent teachers in these branches, but the bill also provided that they should not be engaged in the practice of medicine. These examiners, not active partisans of any system of practice, would constitute a conservative balance of power to regulate the actions of the board, besides it is *from among such teachers only* that men can be found properly qualified to examine in these branches. Four such examiners as these, with four regular and four irregular physicians, would constitute *a board which science would recognize, and over which the followers of no sectarian creeds could exercise control for their exclusive benefit.* This law was regarded as eminently fair by the average legislator. Laws *can* be framed which are just and equitable, and *there is no reasonable excuse for the presentation of any others.*

As to the last question, I will say that the bill should provide as to the character of the men to be appointed, and guard carefully that the control of the board shall not fall into the hands of irregulars; then the appointment may be left to the governor, but nothing should be left to him in deciding the proportion of regulars to irregulars on the board.

Yours respectfully,

GEO. E. FROTHINGHAM, M. D.

DETROIT, MICHIGAN, July 27, 1896.

EDITORIAL ARTICLES.

THE PROPOSED MEDICAL BILL.

THE medical bill proposed for enactment, under the auspices of the Michigan Medical Legislation League, has been submitted for approval to the profession of the state. It is needless to say that now is the time to make suggestions, and it is to be hoped that a measure so widely affecting the interests of the whole profession will not pass into actual enactment until its merits have been fully and freely discussed.

With a view of starting a discussion in the pages of this journal the editor addressed a letter to a small number of gentlemen, submitting the following questions:

(1) Is a medical act desirable?

(2) Does your experience with medical acts elsewhere lead you to consider them conducive to higher standards?

(3) Do you favor the establishment of a separate board of examiners or would you prefer that permission to practice be relegated to the State Board of Health?

(4) Do you consider the question of representation on the proposed board fairly or satisfactorily settled in the proportion of four regulars, two homeopaths, two eclectics, and one physiomedical?

(5) Would you prefer the composition of the board to be left to the governor of the state?

The full and free discussion of these and similar queries would doubtless aid the league in its very laudable object of protecting the medical profession from its foes, and the public from its depredators.

Most of the states now have medical examining boards before which all persons proposing to practice medicine must appear and obtain licenses. That Michigan shall fall in line and achieve a similar enactment seems desirable, not only for the present good that would surely result, but in order that the state may participate in the ultimately desirable object recently proposed worth striving for by the National Confederation of State Medical Examining Boards, namely, that the states should establish a common minimum level of requirements below which a physician should not be allowed to practice. A state license would then possess equal value in all the states. Until standards are equalized and the lowest brought up to the level of the highest, interstate courtesy by official endorsement of another state's qualifications can neither be required or expected.

ANNOTATIONS.

AN ANONYMOUS COMMUNICATION.

IT is not the policy of the management to publish contributions of this nature, and therefore a recent letter which bears the signature of "Medicus" is respectfully declined, the time-honored custom of revealing the identity of the writer having been ignored. The name is not required necessarily for publication, but as a guarantee of good faith.

CHANGE OF AIR.

The science of change of air is sometimes difficult to understand. Changes which one would be apt to consider most undesirable are often extremely beneficial. The disciples of the scalpel and stethoscope usually get plenty of air in their avocations, but are as much benefited as the rest of mankind by a change, and they know the value of trout-stream or seabeach. The real benefit of change has perhaps best been indicated by Doctor Louis Robinson, who regards it as the satisfying of a deeply rooted nomadic instinct. To be in good health it is well to resort to the habits of our arboreal ancestors for a while. He points out the "marvellous vitality of gypsy urchins" which he attributes to their "constant roving habits." The genuine healthiness of the vagrant is, however, perhaps most due to his lack of the dull cares which affect the highly civilized. To get the full advantages of change of air, we must "tomorrow's tangle to the winds resign."

A DEMAND FOR BETTER VITAL STATISTICS.

At the Conference of Health Officers of Michigan held in Ann Arbor on July 16 and 17, action was taken looking toward the improvement of the methods of registration of vital statistics in this state. A committee was appointed, which drafted the following resolution for presentation to the next legislature:

> *Whereas*, Reliable statistics constitute so important a basis for the development of the sanitary service of the state, and the methods of collecting these statistics in this state are such that gross errors may be made, therefore we, members of the Conference of Health Officers of the State of Michigan, petition the coming legislature to pass a law for the immediate registration of births and deaths.

This resolution is pointed and to the purpose. The health officers can speak with an authoritative voice, since the deficiencies of the present imperfect system of collecting mortality statistics are felt by them more immediately than by any other class of the medical profession, engaged as they are in efforts to elevate the general standard of public health. It has been well said that "while any improvement in the treatment of disease, and any addition to medical science, will tend ultimately to the diminution of human suffering, the registration of the causes of death is calculated to exercise a still more direct influence upon public health." It will be observed that the resolution requests the "immediate" registration of births and deaths. By this it is to be understood, presumably, that the law shall require all births and deaths to be *registered* as soon after their occurrence as practicable, not *enumerated* many months after their occurrence as under the present law. This is the gist of the whole matter, and the requirement is an essential one if there is to be any improvement in the present defective system.

WAR DOGS.

In the German military maneuvers of this year, dogs will be used in the ambulance department. At the command "seek," accompanied by a gesture indicating the direction in which search is to be made, the trained dog goes off to the field, finds the wounded man, returns with a cap, helmet or piece of clothing, brings this to the ambulance men and then returns with them to the spot at which the wounded man lies.

CONTEMPORARY.

PRIZE MEN.

[THE GENERAL PRACTITIONER.]

THE wonder is often expressed that we do not hear more from the prize men who graduate from our colleges. They obtain their medals and certificates of honorable mention and go out into the world and the ground closes over them and they are heard of no more. While we are all agitating the question of high standard of scholarship and profound preliminary education, let us bear this thought in mind and ask ourselves why it is that a gold medal acts as a hoodoo? This is just as true in classical colleges as in professional institutions. We are almost sorry when we see the student, in whom we as teachers have taken so much pride, obtain his just reward of merit. As a rule, with just enough exception to prove the rule, we shake hands with him for the last time, for if he goes away, he never will earn money enough to get back, while the dull student, the one whom we perfectly hated the sight of, who was always a trouble, care and anxiety to us for fear he would fail in his examinations, and humiliate us by being obliged to pluck him, what does he do? Why, he settles down next door and the first thing we know he has got away with half our best practice.

How frequently we are brought face to face with the fact that the same qualities that make good students fail to make good business men. No man ever got more than decently well off in the practice of medicine who did not study it for the dollars that were in it. If he studied it for the sake of the art, and as an artist, like artists in general, he died poor. Art never pays except under a manager. The only thing that pays is business in the morning, at noon, in the evening and all night, with respect to no man's dollars but your own. If there is any one chair needed, and needed bad, in our faculties of medicine and law today, it is a chair where the art of making money out of our profession is taught by some truthful past grand master. Perhaps it is most frequently the desire for wealth that is lacking. The desire for wealth must be for its own sake and for the power it gives over others, and not simply as a convenience and stepping-stone to other desires that are themselves paramount; and right here is the trouble with the prize student. His desires are for advancement in his professional study. For this he would sacrifice everything—money, friends, future prospects, all—for him study is an end and not a means; and as an end, study is a disappointment. When the time comes, as it is sure to come, unless wealth has been inherited, that study must stop and practical life begin, the student has run ahead of his business. He hates to go back to practice on the threshold of his studies; he feels himself fitted for better things, and it is with a sensation of disgust that he begins to take the lowest seat. As a rule this disgust prevents his further advancement in material things. His studies may go on and fit him for a teacher, if he is located handy to educational institutions, but he can never compel his career—he has to follow it.

MEDICAL NEWS.

ANOTHER MEDICAL COLLEGE IN MICHIGAN.

THE Saginaw Valley Medical College is a new candidate for public favor. It has been organized in the city of Saginaw, and will commence operations on Wednesday, September 30, in a $30,000 building. Men and women are eligible as matriculates, and instruction involves an obligatory three years' course and an optional four years' course. The faculty comprises many prominent physicians of the valley cities, and their method of teaching contemplates lectures, quizzes, recitations, clinics, and practical work in the dissecting room, laboratories, and hospitals, the latter being numerous and finely equipped.

A MEDICAL CHARITY.

THE Workingmen's Home and Medical Mission, conducted under the superintendency of Doctor J. H. Kellogg, of the Battle Creek Sanitarium, was recently dedicated at 42 Custom House Place, Chicago, Illinois. The purpose of this institution is to care for transient and homeless laboring men and bring them within the pale of christian influences. The lodging department will accommodate about four hundred persons and a per diem rate of ten cents will be charged each guest. A lunch department is maintained in connection, and soups, grain, foods, sandwiches and coffee may be had at the nominal price of one cent. A corps of nurses from the American Medical Missionary College will visit the sick poor, and render, free of charge, treatment, clothing, and such other care as the conditions indicate. A rescue home for girls, a mission farm, cooking and sewing schools, a kindergarten, and kitchengarten are important features of this charitable institution.

THE UPPER PENINSULAR MEDICAL ASSOCIATION.

THE profession of the Upper Peninsula of Michigan have formed an organization bearing this title. The assembly marking its inception convened at Marquette, July 22, on which occasion a large number of papers were read and discussed, Doctor E. W. Jenks, of Detroit, being one of the essayists. A paper on "Syphilis in Relation to Insanity," which was read at this meeting by Doctor Samuel Bell, Superintendent of the Upper Peninsular Hospital for the Insane, will be published in an early issue of The Physician and Surgeon. An elaborate banquet was served in the evening at Hotel Superior. It was decided to hold the next meeting in January, and the following officers will have *charge d'affaires* in the meantime: Doctor J. Vanderventer, of Ishpeming, president; Doctor E. O'Keefe, of Menominee, vicepresident; Doctor P. D. Harrison, of Sault Saint Marie, treasurer; Doctor S. J. Hornbogen, of Marquette, secretary.

THE MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

THE annual meeting of this association will be held in Saint Paul on September 15, 16, 17 and 18, 1896, under the presidency of Doctor H. O. Walker, of Detroit. The date has been changed from October in order that members and their families may be permitted to avail themselves of the opportunity afforded by an earlier meeting to make a tour through Yellowstone Park. The excursion to this wonderland of America will leave Saint Paul on the evening of September 18, arriving at Mammoth Hot Springs in the Yellowstone Park about noon on the following Sunday. The succeeding five days will be devoted to viewing the wonders of this remarkable region and the party will return to Saint Paul on Sunday, September 27. Members who desire to participate in the pleasures of this scenic trip should advise Doctor C. A. Wheaton, chairman of the committee of arrangements, Saint Paul. All who contemplate reading papers at this meeting are requested to transmit the title to the secretary, Doctor Hanau W. Loeb, 3559 Olive street, Saint Louis.

THE DEATH OF SIR JAMES RUSSELL REYNOLDS.

THIS distinguished physician, who recently died at his home in London, was born in that city in 1828, and received his education at University College. He began the practice of medicine in 1852 and soon attracted a large clientele. In 1856 he was elected a fellow of the University College, in 1878 he received the appointment of physician to Her Majesty's household, and in 1895 was created a baronet. He was the author of several medical works, the one bringing him most prominently before the American profession being his "System of Medicine." His best work was of a neurological nature, and his contributions to literature from researches in this department comprise "Tables for Diagnosis of

Diseases of the Brain," "Diagnosis of Diseases of the Brain, Spinal Cord and Nerves," "Scientific Value of Legal Tests of Insanity," and "Vertigo, an Essay." Doctor Reynolds was the son of Reverend John Reynolds, of Westminster School, and grandson of Doctor Henry Reynolds, physician in ordinary to George III. He had been president of the Royal College of Physicians, but owing to ill-health declined a reelection the current year. The immediate cause of the doctor's demise was pulmonary trouble induced by a fall while suffering from a weakened physical condition. He was enrolled in many societies on the continent and enjoyed honor and membership in the American Neurological Society.

THE APPROPRIATION IS EXHAUSTED.

FROM time to time additional work has been required to be done by the State Board of Health, and for many years no additional appropriation has been made. The appropriations aggregate six thousand dollars a year. Act 146, Laws of 1895, required the board annually to send to the school teachers throughout the state data and statements to enable them to teach the modes by which the most dangerous diseases are spread, and the best measures for the restriction and prevention of those diseases. The board has done this for the school year 1895–6, but in doing so has been obliged to stop work done under other laws. It is now time to begin the work for the school year 1896–7, but there is no money available to the board for that purpose. As there was no appropriation for complying with Act 146, Laws of 1895, the State Board of Health asked the Board of State Auditors to allow the bill for expenses on account of that law; this the Board of Auditors has declined to do. This means that the school law and some other laws cannot be fulfilled because the six thousand-dollar appropriations for the use of the State Board of Health are almost entirely exhausted. The board will, therefore, be unable to pay the postage on the "Twenty-Second Annual Report," the latest and one of the most complete yet ready for distribution. Those who desire this volume are requested to send twenty-one cents for postage to Doctor Henry B. Baker, secretary, Lansing, Michigan.

THE MEDICAL GRIST.

The following is the product obtained from the annual harvest conducted at the medical schools in Michigan at the termination of the recent collegiate year:

DETROIT COLLEGE OF MEDICINE.

J. R. Adam, F. Allen, L. C. Annis, J. Baird, O. Bertram, A. J. Brinket, R. C. Buchanan, J. D. Bruce, B. E. Brush, L. J. Burch, J. D. Buskirk, H. W. Cadieux, J. A. Cameron, A. M. Campbell, E. J. Chase, G. E. Christmas, J. D. Campbell, A. E. Copp, J. E. Davis, R. G. Dean, G. P. Dillon, W. H. Ditmars, F. J. Ducat, J. W. Eede, E. J. Evans, R. Ferguson, A. M. Francis, C. W. Graham, T. W. Hammond, J. W. Harrison, W. T. Henderson, D. B. Henry, J. F. Henkel, J. Houston, A. J. Howell, R. J. Hutchinson, J. W. Inches, F. N. Keenan, L. W. Knapp, W. R. Laidlaw, J. C. Landon, L. A. Lewis, A. E. McCosh, A. McIntyre, J. McIver, E. B. McKay, D. S. McLellan, J. R. MacLeod, A. McLaughlin, C. F. Muenz, J. T. Newlove, D. H. Newton, T. H. O'Rourke, A. A. Pace, J. H. Page, R. L. Parkin, L. W. Pease, G. E. Potter, W. H. Rieman, S. E. Sanderson, E. H. Sickler, W. A. Sickles, A. G. Sheets, J. M. Short, A. L. Smith, T. J. H. Smith, R. H. Steinbach, T. Stewart, P. N. Sutherland, J. C. Tasche, C. I. Taylor, W. H. Taylor, T. F. Thomson, W. C. Thomson, T. W. Watson, P. Woolsey, A. G. Wright, F. C. Wylie, C. S. Young. Total 79.

UNIVERSITY OF MICHIGAN--DEPARTMENT OF MEDICINE AND SURGERY.

Frances M. Allen, G. J. Bigelow, C. B. Bliss, A. L. Borden, F. S. Bourns, C. F. Boyden, J. Brayshaw, J. E. Browne, A. H. Burleson, Gertrude D. Campbell,

C. H. Carlin, G. W. Clarke, Sarah E. Conner, D. M. Cowie, A. V. Doud, T. J. Doughty, Eleanora S. Everhard, G. B. Furness, Carrie L. Garlock, Katherine E. Geiger, G. A. Geist, L. C. Grosh, T. C. Geunther, Mary C. Heilesen, Francis Hulbert, Ida Kahn, S. M. Knoop, C. K. Lahuis, J. J. LaSalle, L. G. Locke, Minnora S. Marshall, D. P. Mayhew, C. S. McIntyre, H. B. Morse, S. W. Mowers, C. P. Nelson, E. A. Nevin, R. H. Nichols, Anna L. Preston, E. H. Ryors, H. E. Safford, M. M. Sears, H. W. Sherwood, Meiyii Shie [Mary Stone], C. F. Tuomy, J. W. VanDusen, F. T. Van Urk, Mary E. Walker, F. J. Welsh, C. E. White, J. Zieg. Total 51.

MICHIGAN COLLEGE OF MEDICINE AND SURGERY OF DETROIT.

Mrs. Mary E. Anderson, E. C. Bechtol, R. E. Buck, J. L. Bell, Mrs. Elizabeth Campbell, E. O. Chaffers, E. J. Cobelighy, F. A. Cady, J. A. Fleming, H. W. Green, G. F. Hamlen, A. C. Huebner, H. Harrison, J. Jones, Miss Nectar Kalijian, S. A. Kulick, Paul Leuschner, E. D. Mills, M. Morrison, W. J. Marks, H. C. McKinley, A. K. Northrop, A. F. Partridge, E. M. Paine, A. Penton, M. B. Prentis, C. E. Rosenow, N. Ross, E. D. Robbins, J. E. State, D. Sullivan, Anna Starring, J. W. Scott, J. Preston, W. W. Townsend, J. T. Tabor, R. P. Wixon, O. H. Walker, H. Young, A. E. Youngs. Total 40.

UNIVERSITY OF MICHIGAN—HOMEOPATHIC MEDICAL COLLEGE.

S. G. Bush, F. C. Gilcher, W. F. Holmes, F. A. Miner, C. W. Ryan, J. F. Titus. Total 6.

RECAPITULATION.

Detroit College of Medicine,	79
Medical Department, University of Michigan,	51
Michigan College of Medicine and Surgery of Detroit,	40
Homeopathic Medical College, University of Michigan,	6
Grand total,	176

MINOR INTELLIGENCE.

THERE are eight extra pages of reading matter in this issue.

THE American dentists of Berlin have formed an organization.

KEATS, the poet, is to have a bed endowed to his memory at Guy's Hospital.

THE University of Wurzburg will have a chair of the History of Medicine.

THERE are about seven thousand medical students in the University of Italy.

THE anticigarette law of Iowa has been declared unconstitutional by the United States circuit court.

DOCTOR LUCIEN HOWE, of Buffalo, New York, presided at the recent French Congress of Ophthalmology.

DOCTOR CHARLES DOUGLAS, of Detroit, Michigan, has established a bureau for the registry of wet nurses.

THE Hawaiian legislature are discussing the propriety of imposing a license tax of fifty dollars per year upon physicians.

THE Medical Society of Virginia will hold its twenty-seventh annual meeting in Rockbridge Alum Springs, on September 8, 9 and 10.

THE tenth annual meeting of the French Surgical Association will convene in Paris on October 24, 1896, Professor Terrier presiding.

THE Canadian Medical Association will meet in Montreal on August 26, 27 and 28, Doctor James Thorburn, of Toronto, in the chair.

A MODIFIED vaginal speculum has been invented by Doctor Andrew F. Currier, of New York City. It has two detachable blades and is self-retaining.

THE American Association of Obstetricians and Gynecologists will meet in Richmond, Virginia, on September 22, and continue its sessions during three days.

A BACTERIOLOGICAL laboratory will be erected at Agra, and a chemical laboratory at Calcutta. Their establishment and control will be by the government of India.

CHOLERA is causing about three hundred and fifty deaths daily in Egypt. The number of cases reported during the first half of July was 5,441, of which 4,602 died.

YELLOW fever and small-pox are prevalent in Cuba. Eight thousand Spanish soldiers are sick in Spanish military hospitals, 1,300 of whom are afflicted with yellow fever.

THE epileptic colony of Chalfont, England, has been enlarged by the acqusition of a home for twenty women. Heretofore only men were accommodated at this colony.

THE American Public Health Association will convene in twenty-fourth annual meeting in Buffalo, New York, on September 15 to 18, and continue its sessions four days.

A SAFETY attachment for thermometers has been invented by Doctor Orrin C. Andre, of Waverly, Ohio. It is an efficient device for holding the thermometer in the vest pocket.

DOCTOR JAMES M. SLIGH, of Philipsburg, Montana, is the newly elected president of the Medical Association of that State. The secretary is Doctor William C. Riddell, of Helena.

A FOLDING ophthalmometer has been introduced by Doctor J. Edward Giles, of New York. It is a modification of the Javal ophthalmometer, the principal improvement being its portability.

THE sixth annual meeting of the American Electrotherapeutic Association will occur on September 29 and 30, and October 1, 1896, in Allston Hall, The Studio Building, Boston, Massachusetts.

EUCAINE is a new local anesthetic. It is a synthetic product and bears the reputation of ability to produce insensibility of the conjunctiva without disturbing the normal reflexes of the pupil.

DOCTOR AUGUSTIN H. GOELET, of New York, has invented a cervix knife for denuding in operations for trachelorrhaphy. It has a two-edged pointed blade set at an obtuse angle to a firm shaft and handle.

THE sweet-pea flower is recommended as a safeguard against annoyance from the pestering house fly in the sick-room. It may be grown in the apartment, and the sweet odor emanated acts offensively to these pests.

"GENERAL MEDICINE" is the latest specialty. It has been adopted by a New York physician who announces as a qualification the experience guaranteed by hospital service, a recommendation many specialists cannot present.

DOCTOR ARTHUR F. FISCHER, of South Lake Linden, Michigan, and Miss Mayme A. Slonaker, of the same place, were married on July 14, 1896. The doctor is a graduate of the medical department of the University of Michigan, class of 1890.

DOCTOR MORTON A. PRATT, of Kansas, is the putative father of the Populist party. He is about fifty-five years of age, a native of Massachusetts, and served with distinction during the civil war. In the seventies he became identified with the granger movement, and in 1890 he allied the labor forces of Sedgwick county with the farmers' movement. The descriptive name of the new party orignated with the doctor.

The Green Cross Society is the name of a charitable organization which recently had its inception in Vienna. It contemplates rendering medical aid to Alpine climbers and imparting instruction to the guides in the principles of first aid.

The Supreme Court of the State of Michigan has decided that the Board of Regents of the University of Michigan is a constitttutional body and therefore not obliged to obey the edict of the legislature, which requested a removal of the Homeopathic Medical College to Detroit.

Doctor Donald Maclean and Doctor C. C. Yemans, Detroit physicians, are building a modern hospital at Mount Clemens which will cost $28,000 exclusive of furnishings. The building will be erected on North Branch street, near Euclid avenue. Doctor Yemans will be resident physician.

Mr. Harold Jalland Stiles, of Edinburgh University, has been awarded the Walker Prize at the Royal College of Surgeons for the current year, his work in advancing the knowledge of the pathology and therapeutics of cancer being the best. The boon consists of £100 and a certificate of award.

The American Association of Genito-Urinary Surgeons, which recently convened at Atlantic City, New Jersey, elected the following officers: President, Doctor Francis S. Watson, of Boston; vicepresident, Doctor J. William White, of Philadelphia; secretary, Doctor W. K. Otis, of New York.

The Convalescent Dinner Society is the name of a London organization the purpose of which is to supply fourteen daily dinners to persons whose strength has so far been reduced by sickness as to render them unable to resume work. About one thousand meals were granted during the past year.

Doctor W. Frudenthal, of New York, has invented a nasal bag. It consists of two rubber pouches connected by a rubber septum. Adjustment is accomplished by two bands which encircle the head. Filled with ice this apparatus has its application in epistaxis, acute coryza, surgical procedure, et cetera.

The National Conference of State Boards of Health occurred recently at Chicago. The following officers were elected for the ensuing year: President, Doctor C. A. Ruggles, of Stockton, California; vicepresident, Doctor Benjamin Lee, of Philadelphia; secretary and treasurer, Doctor C. O. Probst, of Columbus, Ohio.

An income tax has been imposed upon physicians practicing in Kentucky. It is graded according to income, the annual license being $10 on any amount under $2000; $20 on $2000 or any sum under $5000; $40 on $5000 or any sum below $10,000, and on incomes of this amount or exceeding it $1000 is the annuity demanded. The medical societies of Louisville have taken conjoint action to test the legality of the law, pending which physicians are advised to resist payment of the license.

The charter of the Illinois Health University has been revoked. This concern was engaged in granting bogus diplomas to students upon payment of a certain sum. Instruction was given by mail and the course consisted of five lessons. Doctor Baker, Secretary of the State Board of Health, found some of the "graduates" making a bluff at the practice of medicine in Michigan and immediately communicated with the Attorney General of Illinois who instituted proceedings to abolish the school.

At the twenty-seventh annual meeting of the American Neurological Association held at Philadelphia, on June 3–5, the following officers were elected: President, Doctor M. A. Starr, of New York; vicepresidents, Doctor H. R. Stedman, of Boston, and Doctor H. S. Upson, of Cleveland; secretary and treasurer, Doctor G. M. Hammond, of New York; councillors, Doctor F. X. Dercum, of Philadelphia, and Doctor Joseph Collins, of New York. The membership was augmented by the election of five applicants.

THE Adelaide Public Hospital, of Adelaide, South Australia, has recently been the scene of revolt, the members of the attending staff resigning because of a disagreement with the management. The action of the staff physicians received the unanimous support of the local profession, but this attitude so incensed the hospital authorities that a salaried staff was forthwith ordered from England. Were professional fealty as pronounced in this country it would not be long until hospital staffs would be serving on salaries.

DOCTOR D. E. WALKER, of Ilion, New York, has addressed a letter to an eastern company of silversmiths suggesting that a teaspoon of uniform and definite capacity be manufactured by the silversmiths of this country. He says that he has examined three hundred teaspoons during the past two years, and discovered that most of those of recent design have volume for one and one-half drachms, some two drachms, and only those of old and rare pattern were found limited to the conventional one drachm.

THE American Laryngological Association elected the following officers at its eighteenth annual congress which convened in Pittsburgh May 14, 15 and 16: President, Doctor C. H. Knight, of New York; first vicepresident, Doctor T. Morris Murray, of Washington; second vicepresident, Doctor D. N. Rankin, of Allegheny; secretary and treasurer, Doctor H. L. Swain, of New Haven; librarian, Doctor J. H. Bryan, of Washington. The next meeting will be held at Washington on the date of the triennial meeting of the Association of American Physicians.

THE Roentgen rays lately revealed the location of the bullet which entered the cheek of Li Hung Chang when assaulted by the would-be assassin at Shimonoseki, Japan, during the progress of treaty negotiations between China and Japan. While sojourning in Berlin, enroute to this country, the distintinguished statesman visited the Charlottenburg Polytechnic and submitted to an examination which demonstrated the presence of the missile encysted in the tissues slightly below where it penetrated the integument.

PROFESSOR H. LELOIR, of Lille, France, an occupant of the chair of dermatology in the University of Lille, recently died at his home aged forty-two years. The doctor achieved distinction through original reseach in the field of neuroses of the skin, his writings on this subject indicating great depth of investigation. Leprosy, lupus, and other dermatological diseases were subjects upon which valuable essays had been written by this scientist. He was one of the editors of the "Twentieth Century Practice," the theme of his contribution to this work being "Dermatoneuroses." His death was the outcome of a railway accident in which he received injuries several months ago.

RECENT PUBLICATIONS.

REVIEWS.

A TEXT-BOOK ON NERVOUS DISEASES.*

PRACTITIONERS cannot afford to forget the existence of this concise and able treatise on nervous diseases by Doctor Dana. The condensed character of the contents of this book make it especially valuable as a manual. All the essential facts of neurology are carefully and concisely elaborated, and the completeness of the work will take rank with its correctness.

*Being a compendium for the use of practitioners of medicine. By Charles L. Dana, A. M., M. D., Professor of Nervous and Mental Diseases in the New York Post-Graduate Medical School. Third Edition. Two hundred and ten illustrations. William, Wood & Company, New York.

A SYSTEM OF SURGERY.*

The four volumes of this excellent "System of Surgery" comprise 3663 pages, 1585 engravings, and 45 full-page plates in black and colors. Volume III is devoted to the larynx, tongue, jaws, teeth, salivary glands, chest, eye, ear, skin, genito-urinary diseases and syphilis. Volume IV discusses tumors, hernia, surgery of the alimentary canal, appendicitis, surgery of the liver and biliary passages—of the uterus—of the ovaries and tubes—of the female breast—of the thyroid, gynecological surgery, symphyseotomy, surgical peculiarities of the negro, and the use of the Roentgen rays in surgery. The subjects are treated by a corps of surgeons whose qualifications as teachers and writers entitle their deductions to the most respectful consideration of the profession, and the several masterpieces constitute an encyclopedia upon modern surgical technique which should adorn the library of every practitioner in the domain of surgery who essays to advanced methods of treatment.

*By American authors. Edited by Frederick S. Dennis, M. D., Professor of the Principles and Practice of Surgery, Bellevue Hospital Medical College, New York; President of the American Surgical Association, et cetera, assisted by John S. Billings, M. D., LL. D., D. C. L., Deputy Surgeon-General, United States Army. Completed in four imperial octavo volumes, with index. Profusely illustrated with figures in colors and in black. Volume III: 908 pages, 207 engravings, and 10 colored plates. Volume IV: 970 pages, 441 engravings, and 23 plates. Price per volume: $6.00 in cloth; $7.00 in leather; $8.50 in half Morocco, gilt back and top. For sale by subscription. Full circular free to any address on application to the publishers, Lea Brothers & Company, Philadelphia.

EPIDEMIC OPHTHALMIA.*

As a preventable disease, the study of epidemic ophthalmia is of high importance from a sanitary standpoint. Doctor Stephenson's work is a thorough review of the whole subject, his conclusions being based upon a study of large groups of cases. The book may safely be recommended to the general practitioner.

*Its Symptoms, Diagnosis, and Management, with papers upon allied subjects. By Sidney Stephenson, M. P., F. R. C. S. (Edinburgh). Price, $3.00. Cloth. Macmillan & Company, New York.

THE INTERNATIONAL MEDICAL ANNUAL.*

The fourteenth volume of the "Medical Annual" fully maintains the reputation achieved by former issues. As a hand-book of modern therapeutics it will be found excellent in every way. The illustrations are particularly to be praised. The small cost at which the work can be purchased should make it indispensible to every physician.

*A complete work of reference for medical practitioners, alphabetically arranged, and combining the features of an annual retrospect with those of a medical encyclopedia. Each succeeding yearly volume contains entirely new matter. E. B. Treat, New York.

A MANUAL OF MEDICAL JURISPRUDENCE AND TOXICOLOGY.*

A concise manual of jurisprudence is afforded in Doctor Chapman's book. It is especially forcible in its consideration of the jurisprudence of abortion. A large number of illustrations enhance the value of the descriptive text.

* By H. C. Chapman, M. D., Professor of Institutes of Medicine and Medical Jurisprudence in the Jefferson Medical College of Philadelphia. Second edition. Fifty-five illustrations. Price, $1.50. W. B. Saunders, Philadelphia.

The Physician and Surgeon

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ORIGINAL CONTRIBUTIONS.

MEMOIRS.

DEGENERATIVE PROCESSES IN DISEASES OF THE SKIN.*†

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[Published in The Physician and Surgeon exclusively.]

THE student of dermatology who pursues the subject thoroughly must be impressed with the need for a more comprehensive, or more elastic classification; one that would include an arrangement of diseases of the skin, like diseases of other organs, according to the pathological processes present.

Fifty years ago HEBRA published his effort at a classification of diseases of the skin on a basis of pathological anatomy, and his plan, more or less simplified or modified, has been pretty generally followed since.

The pathology of the skin, both general and special, is being more studied than ever before, and the tendency to investigation in this direction is shown particularly in such recent works in America as "DUHRING's Cutaneous Medicine," and in Europe as "UNNA's Histopathology of the Diseases of the Skin." Such works inaugurate a new epoch in the study of skin disease.

The pathology of the skin, which is not unlike the pathology of other tissues, may profitably be studied from several standpoints. For instance, one of these points of observation views the manner in which the skin is attacked and the structural changes resulting in the different morbid processes, and necessarily requires a consideration of its normal and pathological anatomy and physiology.

Another view must take account of cause, as for instance whether it be due to functional, inflammatory, parasitic, bacterial, traumatic, contagious, hereditary, or other conditions or a complication of two or more of them. Other points of view would observe constitutional conditions and the performance of other functions. Many points of view will suggest themselves, but the physician will seek those which will throw light on processes present, and methods of cure.

It is of special interest to study the tendency in some apparently innocent and benign conditions to become malignant either by degeneration or development. An examination of processes by which, or accompanying which, this takes place, and of the conditions under which it is most likely to occur, is of practical value in making diagnosis and prognosis and in shaping treatment in the first care of cases.

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* A number of photographs illustrating degenerate processes in disease of the skin were exhibited, among them sarcoma, syphilis, rodent ulcer, lupus, lymphangioma and gangrene.

† Read before the MICHIGAN STATE MEDICAL SOCIETY, at Mount Clemens.

Looking first at the structural or anatomical view, the most external layer of the skin, the epidermis, is sometimes the only or the chief tissues diseased. From the structure and function in health of the epidermis, its value in the maintenance of the function of the skin and its liability to danger in many pathological conditions is obvious.

Bearing in mind its laminated structure—though for present purpose considering only two layers, the corneous and the mucous—we note that while the corneous is the exposed part, subject to traumatic, parasitic and similar causes, yet the deeper or mucous layer is the seat of the more serious pathologic conditions affecting the cuticle. Thus in lupus, psoriasis, eczema and many other superficial inflammatory diseases, this layer is chiefly involved primarily. It is also the seat of hypertrophy in many forms as seen in callosities, wart, ichthyosis and other keratoses. It is in the true skin, however, that the greater number and graver character of skin lesions are found.

Owing to its complicated structure in addition to its own tissues that give it strength and elasticity, in short that constitutes it an integument, it furnishes the framework of warp and woof in and through which blood-vessels, nerve terminals, hair follicles and hair, sebaceous, sudoriparous and lymphatic glands and ducts pass. The functional arrangement alone of these glands constitutes a broad foundation in hyperidrosis, anidrosis, seborrhea and other disturbances for a long list of pathological conditions, inflammatory, structural, degenerate, or malignant, among which are hyperemia, anemia, exudations, edema, hemorrhage, hypertrophies, atrophies, new growths, and changes in blood-vessels and lymphatics, the angioma and lymphangioma. The animal parasites prey in this tissue. In this layer the appendages of the skin have their origin and nutrition and the disorders to which they are subject—except parasitic—are ordinarily due to inflammatory or traumatic causes or to failure of nutrition.

It is not necessary to consider in detail the various theories of inflammation that have had their rise and fall—some of them within a decade. It is not material whether inflammatory changes have occurred by reason of the vascular, the nervous, the paralytic, the exudative, the degenerative, the hypertrophic or the most recent phagocytic, or the chemotoxic theories. It is more to our purpose to note some of the results of what we understand by inflammation of the corium or true skin. And among the first should be mentioned the tendency to chronicity, and to increase of connective tissue, and to the destruction of tissue. In chronic inflammation, and especially cases aggravated by long continued irritation, changes are found due to impaired nutrition, and also to degenerative states of the tissues, as in ulceration, necrosis or gangrene. Many forms of lesions are also found in inflammatory degenerations, not constant or permanent, and which are sometimes spoken of as distinctive diseases, as hypertrophies, atrophies. The destructive process, particularly in the case of the connective tissue and also in the elastic tissue is chiefly by infiltration. PASSARG and KROESING have shown that in all inflammations, especially hyperplastic and degenerative processes, disappearance of the elastic tissue corresponded with the intensity and duration of the pathological process. A similar condition and process occur in fibrous neoplasms of the skin. Many forms of sclerosis are results of increase of connective tissue.

It ought to be remembered that two or more lesions are often found present in the same disease. Edema as in urticaria, papules and vesicles as in herpes, blebs and bullæ as in erysipelas and pemphigus, nodules and pustules as in acne, or furuncle and any or almost all of them in eczema.

Certain regions and tissues of skin seem to be the seat of particular processes of disease. Parts richly supplied with glands and follicles or with thin walls bounding cavities are more often the seat of purulent processes. This may perhaps account in part for the frequency of specific bacillary or infectious disease in the region of the nose and face. Destructive processes in such tissues are prone to occur and slow to repair. It is a significant fact that so many of the graver structural changes in the skin are in the deeper tissues, are found at the mucocutaneous borders, or involving both mucous membrane and skin proper. And it is likewise true that destructive forms of disease of the skin beginning on the cutaneous covering are very likely to extend toward the mucous membranes, especially about the mouth and nose or genitals, examples of which are seen in lupus, epithelioma and syphilis. A simple inflammation may be complicated by the presence of bacteria or pyogenic cocci into a grave infective process. And we may have toxic affections of the skin, originating in, or complicated by, such poisons as ptomains.

Leloir calls the affections of the skin resulting from inoculation by the products of suppuration "pyodermata," including the direct results primarily produced by the agents of suppuration as furuncle, carbuncle, folliculitis and those in which there is a predisposing pathogenic cause, as impetiginous conditions.

Septicemia is found sometimes as a cause and sometimes as a result of cutaneous disease. Infective inflammation is often a result of hemorrhage. Necrosis of inflammatory products is often found in these conditions. Necrosis, especially of extremities, is also sometimes the result of impaired nerve influence.

Many of the dermatoses thought to be simple innocuous inflammations have been demonstrated to be the result of microörganisms, as in the various forms of the tinea fungi, and to appear in certain portions of the body when the conditions of soil are favorable.

Those microbes which go deeper than the cuticle tend to enter the body—according to experiments by **Wasmuth** with cultures of staphylococci, and with the cocci of erysipelas, and carbuncle, on man and the lower animals—between the root sheath and the hair shaft, rather than through the unobstructed openings of the sebaceous or sweat ducts.

General pigmentation must always be regarded as a grave condition and its disappearance by absorption a favorable prognostic sign. Local pigmentation may result from passive capillary engorgement or extravasation. The pigmentation observed in late stages of multiple sarcoma and similar grave conditions is due probably to hemorrhage rather than to diseases of the suprarenal capsules, as sometimes supposed.

Metastasis in skin affections or in systemic conditions is variously shown, notably in gouty rheumatism and eczema. The appearance of eczema during an attack of gout may greatly relieve the gout, while appropriate treatment for the rheumatism will relieve the eczema.

Hemorrhage is usually a complication and an indication of considerable gravity, and may occur from thinning of the walls of blood-vessels or from fatty or other degeneration both in early and late stages of disease as in ecchymosis, traumatism or purpura.

Hypertrophy occurs in both benignant and malignant conditions involving cuticle and papillary of the corium as in horny growths, or a simple hyperplasia of the corium and subcutaneous tissue without inflammation as in acromeglia; or with inflammation as in eczema of lower extremities, and of connective tissue as in elephantia conditions, and of edema often aggravated if not excited by occupation such as cause increased function of tissue or organ. Marked instances of hypertrophy of pigment occur in malignant conditions, especially in melanotic sarcoma.

Atrophy often follows hypertrophy as a degenerative process as in morphea and scleroderma. The hair as in alopecia and the nails suffer from atrophy, conditions which indicate disturbed general as well as local nutrition. Atrophic changes occur from impaired nutrition, defective circulation or nerve function in various trophic disorders. Some conditions result largely from mechanical pressure.

It is not the purpose of this paper to discuss traumatic neuroses, but it may be relevant to allude to the vasomotor disturbances which lead up to vasomotor spasm producing a condition of local asphyxia or Raynaud's disease.

The neoplasmata, which comprise so large a number of diseases of the skin are made up of tissue histologically different from that in which it grows; and unlike inflammatory processes which primarily tend to break down the tissues, new growths are constructive, building up new formations. They may consist chiefly of connective tissue, new formations and epithelial proliferation. These new formations which grow externally like warts and cutaneous horns are for the most part innocent, while those which grow inward into the corium tend to malignancy and to destroy the tissues which they invade. These constitute the epithelial cancers so called.

The adenomata constitute a form of new growth of the skin glands which bear a certain analogy to the new formations of the skin proper. Apparently while the new formation is limited to the gland itself, the condition is comparatively harmless, but when the periglandular tissues are involved, the condition tends more to that form of malignancy shown in the gland cancer with spheroidal and columnar epithelium. DUHRING believes it probable that the form of cancer known as rodent ulcer has its beginning in the sebaceous gland. He also makes a group of infectious diseased conditions between inflammations and new growths proper, "comprising such diseases as lupus, syphilis, leprosy, glanders, granuloma fungoides and malignant pustule," under the name of granulomata. Histologically they resemble granulation tissue. They are mostly malignant, but covering greatly varying periods of time in running to a fatal end. Some of them undergo involutions by various processes.

Two cases of skin tumors reported by me to this society a year ago corresponded in macroscopic appearance to DUHRING's granuloma and also to mycoses fungoides. But microscopic examination of both (the second case having since died) showed round celled sarcoma. KAPOSI regards these conditions as a form of "sarcomatosis."

The consideration of the subject might be greatly extended; but as the purpose of the paper is rather suggestive than exhaustive, it is believed enough is shown to indicate the need for careful observation to determine the existence and progress of degenerative disease and the best methods of treatment.

THE TREATMENT OF PELVIC SUPPURATION BY VAGINAL INCISION AND DRAINAGE.*

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THOSE of us who can look back over the field of medicine for two decades or more will remember with what apprehension all cases of pelvic suppuration were formerly regarded. Following the teachings of the pioneers in gynecology, especially of NONAT, the presence of pus in the pelvis then meant to the average mind one of two things, either an hematocele which had broken down and become purulent, or abscess formation resulting from inflammation of the cellular tissue about the womb. Those two conditions practically represented about all the general knowledge then possessed regarding pelvic suppuration, and the prognosis in such cases was always guarded as to the ultimate fate of the patient.

By common consent, "pelvic abscess" was generally let alone, to absorb if it would, or burrow and rupture if it would, and only those cases in which life itself appeared to be endangered were subjected to operative interference. For, as THOMAS stated in his text-book as recently as 1878, "there are few localities in the body into which it is more hazardous to cut than this," meaning the vaginal vault, which SCANZONI pleads that the knife not infrequently failing to find the abscess cavity, the patient is thereby subjected to this additional and unnecessary suffering.

With the advent of a new gynecological era, ushered in by the work of TAIT in abdominal surgery, pelvic pathology underwent a complete revolution. Hematocele now stood for ectopic gestation, while cellulitis gave place to pyosalpinx, and every pelvic condition connected with the suppurative process was amenable to celiotomy alone.

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* Read before the MICHIGAN STATE MEDICAL SOCIETY, at Mount Clemens.

A few, among whom notably **Munde**, of New York, while practicing and according full credit to the abdominal method, still advocated in suitable cases the vaginal route for the evacuation of pelvic pus, and gradually, as knowledge of the morbid conditions of the parturient basin and its contents increased, and experience gave rise to greater confidence and to improved technique, others have been led to adopt vaginal incision and drainage in this class of cases.

At the present time the admissibility of such a method is largely conceded, and the question *sub judice* is as to the conditions under which it may be properly undertaken.

From my own experience in pelvic and abdominal surgery, I should say that there are three classes of cases in which vaginal incision and drainage in pelvic suppuration might possibly be satisfactorily elected. I used the word *possibly* advisedly, for I am not quite certain but that in one of them at least, and perhaps in all, celiotomy would not only be preferable but would bring about more favorable results in spite of its additional risks and dangers. The conditions in which vaginal incision and drainage in pelvic abscess* may be desirable are:

(1) Cases in which the radical operation is positively refused by the patient or cannot be undertaken for other reason.

(2) Cases in which the physical condition of the patient is such that celiotomy, if performed at the time, would certainly prove fatal.

(3) Puerperal cases in which the pus is wholly extraperitoneal.

Regarding the first class nothing need be said. In the second class we often come in contact with those who from long continued disease have become so physically reduced, or are so thoroughly saturated with the septic material emanating from the pelvic cavity as to be incapable of withstanding the additional strain imposed by abdominal section. In such cases, by the thorough draining away of the infectious matter per vaginam, time is secured in which to build up and strengthen the patient's flagging vitality, and thus to render a subsequent thorough removal of the diseased parts a comparatively safe if not simple undertaking. The decision as to method in such instances is, it must be confessed, often a matter requiring the greatest judgment and skill, as well as large experience and diagnostic acumen.

A patient whom I recently saw with my friend, **Doctor F. W. Robbins**, at Harper Hospital, illustrates the difficulties experienced in such cases. The woman had been ailing for a considerable time, and was very septic when first seen. The presence of pus in the pelvis could be readily made out by vaginal examination, and it was apparently confined to a single location. Something in the general feel of the parts, however, led me to believe that the condition was more general than could be detected by the examining finger, and I advised against vaginal incision. The abdomen was opened and several distinct and separate pus cavities were evacuated. The patient making but poor progress in her recovery, a second operation was shortly undertaken by **Doctor Robbins**, who discovered another large abscess well up on the side. Since the evacuation of this the patient's recovery has been quite satisfactory. In the third class of cases the vaginal method may offer many advantages over the abdominal. If the abscess is within easy reach it can be evacuated, drained and gradually closed with a minimum of danger to the patient, and with the almost perfect certainty of ultimate complete recovery. In some cases, the combined vaginal and abdominal operations have been found necessary, drainage being had from both above and below.

Operative Technique.—Before undertaking vaginal incision, it is absolutely necessary that the position of the pus sac shall have been accurately determined. The patient having been prepared for operation in the usual manner, is placed on the table on her back. The vagina is then again thoroughly scrubbed and douched with an antiseptic lotion, the external parts are thoroughly washed with soap and water, shaved if necessary, and rendered aseptic. A speculum is then introduced and the lowest place at which the pus "points" punctured with an aspirating needle. Guided by the needle a director is then pushed into the abscess, and a pair of blunt-pointed scissors or a small dilator introduced into the opening, which should be enlarged sufficiently to admit the finger for the examination of the interior of the sac. The cavity should then be washed out with full strength peroxide of hydrogen solution, followed by sterilized water and an antiseptic. A drainage tube is introduced, the vagina lightly packed around the tube with antiseptic gauze, an antiseptic pad placed over the vulva, and the operation is completed. The subsequent treatment consists in washing out the abscess cavity and promoting its healing.

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*By pelvic abscess is here meant suppuration of every kind occurring in the pelvis, whether in tumors, tubes, ovaries, or resulting from true cellulitis of puerpery, et cetera.

From a description of this operation it would appear to be very easy of performance, but those who have had experience will agree with me that it is often quite the contrary. There are also some dangers to be apprehended. Puncture of an adherent intestine, the ureter, or a blood-vessel may occur, and more or less serious complications thus arise. One point which should be emphasized—the opening into the pus cavity must be kept sufficiently large to admit of thorough drainage, and should be kept patulous until the abscess walls have contracted and healed. A small opening with imperfect drainage, and leakage about the tube may further increase the septic infection, and the last state of the patient thus be made worse than the first. A case upon which I recently operated is in point. The vaginal opening into a pus-tube was so small that insufficient drainage took place and the young woman became deeply septic. At the time of her admission to the hospital her pulse was over 120, and the temperature high. On opening the abdomen the whole pelvic tissue was found to be in a state of approaching rottenness, and the stench from the pus was anything but agreeable. In spite of thorough drainage, and the most careful antiseptic precautions during the operation and afterward, this evil smelling pus continued to well up from the bottom of the pelvis for several days, and the skin of the abdominal wound becoming infected opened up its entire extent, but finally healed by granulation, leaving a wide, unsightly cicatrix. The patient is now in perfect health, has gained fifteen pounds since the operation, and the scar has as yet shown no signs of giving way.

32 Adams Avenue, West.

THE CHROMOSCOPE: A NEW INSTRUMENT DESIGNED FOR A READY TEST OF COLOR PERCEPTION.*

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The instrument which forms the subject of this short paper is designed as a means to obtain ready test of color perception. Its construction is very simple, making use of well-known optical laws, namely, producing a display of natural colors by decomposition of the rays of light. The device consists of a fenestrated card or window and the chromoscope proper.

The fenestræ of the card are of different widths and so cut as to measure or regulate the amount of light passing through the chromoscope. The wider the apertures the purer the color. In the narrower openings the colors are blended producing shades of the original colors.

The chromoscope proper consists of a prism whose sides are one and one-fourth inches in width, its length being four and one-fourth inches. This prism is placed in a convenient box at a suitable angle so as to receive the rays of light passing through the fenestrated card, decomposing them and showing at a glance the spectral colors.

To obtain the best results with this instrument, the card should be placed in a large window high enough to admit (unobstructed by adjacent trees or buildings) the passage of abundant daylight through the fenestræ. The observer, sitting before the window at a distance of six or seven feet, holds the chromoscope before him and looks through it, bringing the card into view after the manner of the stereoscope. He will then observe the display of natural colors; the red, green, yellow, blue, indigo, violet, with faint orange, together with various blendings of these colors. It is better to expose the card in a modified light, as too much sunlight weakens or dilutes the pure colors.

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*Read before the Michigan State Medical Society, at Mount Clemens.

The box containing the prisms is partitioned off so as to aid in the concentration of the rays of light, also to produce shade around the prism, thus absorbing in a measure superabundance of light.

The advantage of this instrument is that it gives us a convenient and quick test of color perception, saving the physician valuable time. It is not designed to displace the Hohngren yarn test, which is valuable as a minute test for color blindness. With the chromoscope we are enabled to exhibit pure natural colors as they exist in sunlight.

I have used this instrument in my practice for several months, and have found it of service as a color test. I have examined during the months of March and April, 1896, one hundred and twenty-one railroad employes for aural and visual defects. They were employed as engineers, firemen, brakemen, conductors, switchmen, telegraph operators, and station agents. From among the one hundred and twenty-one individuals, three who were color-blind were detected. They were red-green blind. The discovery of this defect by the chromoscope was verified by the Hohngren test.

48 ADAMS AVENUE, WEST.

FOREIGN BODIES IN THE LARYNX; REPORT OF A CASE.*

BY E. W. DAVIS, M. D., SAGINAW, MICHIGAN.

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IT is not my purpose at this time to read before this section an exhaustive paper on the subject of foreign bodies in the larynx, but simply and briefly to report the history and treatment of a case which has occurred in my practice since our last meeting. The case to me presents some interesting features and so far as I have been able to learn in these particulars, we might almost consider them unique.

On June 11, 1895, W. R., aged fifteen months, while sitting on the floor near his mother, by the side of his sister, who was eating peanuts, suddenly reached out, picked up a nut and bit off about one-fourth of the shuck. His mother noticed what he had done and at once reached down to get it away from him. Just then the child raised his head, laughed, and with an inspiration drew the fragment back, probably to some point in the larynx, where it rested possibly under the edge of the epiglottis.

The mother says that immediately the child began to breathe croupy; the face grew flushed and afterward assumed a purple hue. He threw his head back and made almost violent attempts to breathe, at the same time his eyes appeared glossy and protruding. She picked the child up and hurried to the house of the grandfather, who lived only a few rods distant in the same block, loudly calling for assistance en route. A neighbor hastened to the nearest telephone and summoned two physicians.

In the meantime several neighbors who had rushed in to assist were trying in various ways to remove the obstruction—by holding the child with his head low, slapping him on the back, et cetera. Among those present was a young man with a large hand and long fingers who, with the others, attempted to render assistance by introducing his finger. When he withdrew the member it was covered with blood at least one-half its length. This probing changed the position of the foreign body, and at once the child began to breathe easier; his face assumed a more natural appearance and so far as could be seen he was all right.

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*Read before the MICHIGAN STATE MEDICAL SOCIETY, at Mount Clemens.

About this time the physicians arrived, and after carefully examining the child so far as they were able, could find no indication of any foreign body being lodged either in the larynx or trachea, and gave an opinion that whatever had been lodged there had afterward been expelled or swallowed. The child continued to breathe all right, and afterward slept for about four hours, when he arose, played about the house, ate supper and apparently seemed as well as ever. About 10 P. M. that evening, the father asked me to call and see the child, as he said, "not because he thought there was any real need of it, but being their usual family attendant, his wife was anxious for me to see him." When I reached the house I found the child breathing a little croupy, and after listening to the history, gave it as my opinion that the labored respiration was due to edema, which had been caused by injury done to the parts in inserting the finger.

The next forenoon, however, I found all the symptoms very much aggravated, and I felt that very soon it would be necessary to perform tracheotomy. DOCTOR FUERBRINGER was called, and agreed with me that an operation should be made at once. We made the necessary preparations as soon as possible and about 2 P. M., assisted by DOCTORS FUERBRINGER and CAMPBELL, I performed tracheotomy, which gave the child immediate relief. After a few days we examined the throat by the aid of the laryngoscope, as well as we were able to do in a child fifteen months' old. The only abnormality we could detect was an edematous inflamed condition of the throat which was about equal on all sides. This aided in confirming our opinion that the real reason for the excessively swollen condition of the parts was the injury caused by those who had ignorantly been probing the throat with their fingers. Reasoning on this line, we fully expected that as soon as sufficient time had elapsed this irritation would subside, the swelling disappear and we would then be able to remove the tube. But to our disappointment as time went on the trouble in the larynx persisted, and the child continued to wear his tube. During this time, however, he ate and slept well, and seemed to suffer in no way except from the annoyance of having to wear the tube. I might say that from the first we were never able to leave the tube out long enough to clean the opening, as the spasms would be so severe as to absolutely shut off the air from passing either through the wound or trachea.

After waiting about four weeks and finding no apparent change in the condition of affairs, we (I say we because DOCTOR FUERBRINGER had assisted me through the case) determined to make as careful an examination as possible, which we did, assisted by DOCTORS BLISS, CORNELL and SMALL. The larynx was examined by the aid of the laryngoscope. We also administered chloroform and examined the artificial opening and the trachea from below; but could find no indication of the presence of a foreign body. It was the unanimous opinion of the doctors that the trouble, at that time, was due to the swollen condition of the larynx, and the spasm, which was very marked; in fact when the child was only partially recovered from the influence of the chloroform the spasm was severe enough to contract the trachea and close the artificial opening so tightly that no air could enter. For this reason we were never able to leave the tube out long enough to clean it, but found it necessary to be always ready with a clean tube the moment the other was withdrawn.

From this time the case went along from day to day without any material change, until August 2. When I called that morning the mother remarked that there was something wrong, or there had been some change in the child's throat. When I examined him I found indications of an accumulation of mucus in the air passage above the insertion of the tube. I removed the inner tube, and for the first time, since the accident, the child expelled air through the fenestra, in the tube. At once the child began to choke and cough, and expectorated quite a quantity of mucus and pus. I examined the expectorated matter and found to my surprise that it contained the peanut shuck which the child had swallowed on June 11, just fifty-two days before. From this time the condition of the throat gradually improved and about three weeks later we were able to remove the tube, the child having worn it seventy-five days. After the tube was finally removed the wound closed and healed with great rapidity, no dressing or after-treatment being necessary.

In a general way there is nothing remarkable about this case but there are a few interesting points:

(1) The age of the patient.

(2) Absence of symptoms for so long a period when the foreign body must have been lodged in the larynx.

(3) The length of time that elapsed before suppuration was sufficient to dislodge it.

When we think of tracheotomy as an operation, it seems a very simple procedure. If, however, you have to deal with a child fifteen months' old it is not an easy task, and I doubt if those who have never had such a patient have ever really considered how small the trachea is. Although text-books are practically silent on the subject, nevertheless statistics prove that a majority of patients under two years do not recover from this operation.

I have never been able to determine why this child should have been absolutely free from symptoms so soon after the obstruction was pushed aside by the finger. We have unmistakable proof that there were no symptoms, as two physicians were present and examined him carefully, and for at least eight hours thereafter none appeared. Is it not remarkable that with so much local injury and the great amount of swelling which developed, together with the presence of the foreign body, that so long a time should have elapsed before suppuration was sufficient to dislodge the shuck? The uniform swelling on all sides of the larynx and the rapidity with which it developed will easily account for our inability to discover the foreign body, as the edema was sufficient to completely cover it. I believe if the finger had been kept from the larynx a few minutes longer, until the physicians arrived, the obstruction could have been easily removed and further trouble obviated. But when we consider this child's small throat being probed with a large finger, and no doubt with great force, the resulting injury to the parts is not surprising. This injury was undoubtedly the principal cause of the excessive swelling and inflammation, and consequently to it may be attributed the protracted illness of the child.

When we consider the facts in this case, are we not justified in saying that our trouble in this case was two foreign bodies instead of one:

(1) The peanut shuck.

(2) The finger; and of the two which did the greater amount of damage, and which was really to blame for the trouble that afterward rendered a tracheotomy necessary?

SUMMER DIARRHEA OF INFANTS.*

By H. D. JENKS, M. D., DETROIT, MICHIGAN.

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WHILE diarrhea is a vague term, and may be said generally to be a symptom of a disease, and not a disease itself, there is no difficulty in recalling the picture presented by an infant with summer diarrhea, the numerous loose dejections, foul or acid smelling, slimy, and greenish in color, the pale pinched face, the flabby skin, and the generally sick aspect of the patient.

The diarrheas here mentioned will be those occurring in the first two years of life. They are frequently spoken of as cholera infantum by both friends and physicians; yet statistics by competent observers show that cholera infantum is a rare disease, while diarrhea is common during the hot months, and does not as a rule simulate the choleriform symptoms. Moreover, cholera infantum seems to be due to a specific microorganism as yet unknown, while as we shall see later the simple diarrheas have no such etiology. Until the diseases of infants have been more carefully studied than they have as yet; until the nomenclature of intestinal diseases of babies shall be settled upon on some rational basis, such as has been lately attempted by the American Pediatric Society, we shall have to use the term "diarrhea" to describe a disease or group of diseases, but be ready to change it when a suitable scientific name shall be given to this common affliction of infants.

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*Read before the DETROIT ACADEMY OF MEDICINE.

So little work has been done upon the pathological conditions found in the intestines of babies that we are at a loss to know exactly what are the etiological factors in producing the diarrheas. We know that infancy is predisposed to diarrhea, and that this predisposition disappears as the individual grows older. Why this is so is not altogether apparent. We find the whole organism of an infant in less stable equilibrium than that of the adult. Explosions of nerve force in the form of convulsions are common, and are lighted up by things which in the adult have no effect at all. We know that the glandular elements in the intestinal tract of infants are very well developed, but are likewise very delicate, and consequently easily disturbed. It is, therefore, easy to see how the hot weather, improper surroundings, improper food, improper care, and even nerve irritation alone may upset this equilibrium, and start the diarrhea, or render the tissues vulnerable to bacteria. If any one element is to be singled out, probably improper food would be the most important. In a series of twenty-five cases occurring in the months of August and September I found that not a single one of the little patients had been fed exclusively upon breast milk, undoubtedly the ideal food for the first year of life. It is said that the intestines of breast-fed infants contain few bacteria while that of the artificially fed contain a large number. We should expect, then, to find that artificial foods, but especially the patent foods, and the improperly compounded cow's milk, are responsible for a large share of the diarrheas. Such is the fact.

Another factor in producing the trouble is the frequency with which the baby is fed. It has always been a mystery to me why every time the baby opens his mouth it was necessary to fill it with the nipple of a nursing bottle. No adult fed every half-hour could keep his digestion good for any length of time. It is, therefore, no wonder that the delicate organs of an infant into which food often improper in quality is being constantly poured cannot stand the strain. It would be more wonder if it could stand it. How much value is to be put on the other elements, nerve disturbance, improper surroundings, and temperature cannot accurately be stated at present, but every one of them has a part more or less important.

The pathology has been studied very little, and as yet the results are not satisfactory. The American Pediatric Society has for the last few years been working upon the intestinal diseases of infants, and it is to be hoped that before long definite information may be secured. It is found, however, that the intestine postmortem shows very few of the lesions that the symptoms have given reason to suspect. In fact after a severe case of simple diarrhea often almost no inflammatory changes are found. When such changes are found they are chiefly in the small intestine. It is proper, then, to speak of the diarrheas as functional and organic, the functional leaving no demonstrable lesions behind. The organic are divided into fermental, which include by far the greater number of cases, and the inflammatory, less common, and not belonging to the class of diarrheas under discussion.

The bacteriology of summer diarrheas is even more difficult to give than the pathology. The same germs that under normal circumstances may be present in the intestines, and yet do no harm may when the mucus membrane is irritated produce results either directly upon the intestinal wall, or indirectly upon the system by the absorption of bacterial poison. The fermental form in which we have the two forms, acid-fermentation and albuminous decomposition, is undoubtedly due to microorganisms; but what they are, or whether or not they are always the same is not at present known. There is plenty of work for the bacteriologist in this class of cases.

Symptoms.—In the functional form of acute diarrhea of infancy the onset is rapid, the body has more or less abdominal pain, restlessness, pallor, exhaustion, little or no temperature, but there are present six to twelve light brown dejections which become watery after the first few motions. This form lasts as a rule but a few days unless it is improperly treated.

In the fermental form there is usually no fever, or else there is a high fever lasting a day or two due to the absorption of the toxic material. When the toxic material is eliminated, the fever subsides suddenly. The dejections are greenish, sour-smelling in the acid-fermentation, but foul in the albuminous decomposition. There is usually pain and a good deal of prostration. It is this form that the artificially fed infant so often has. This form, moreover, interests us especially, as we have a rational means of treating it.

The inflammatory form is rare compared with the other forms, and can be distinguished from them by the long continued high fever, and the marked structural changes. It will not be considered in this paper.

The diagnosis is usually made for the physician by the mother or attendant. The condition of the infant can be better estimated by one in constant attendance than by the doctor in a hasty visit. It is essential, therefore, to determine so far as possible the kind of diarrhea, since the treatment depends upon the kind found. We must know the sort of food fed the baby and the number of feedings in the twenty-four hours. We differentiate the fermental form from the functional by the odor, the color, the presence of mucus and blood, and by the fact that the food is an artificial one. Often it is impossible to determine the form at once when a symptomatic treatment may be necessary.

From what has been said it will be evident that treatment is largely along the line of proper feeding at proper intervals. In fact, of the twenty-five cases already mentioned, belonging almost exclusively to the fermental form, four received some drug treatment in addition to a change of food, while the remaining twenty-one were treated by regulation of the food alone. This will, perhaps, represent about the proportion of cases requiring drugs.

That we may properly understand how to regulate the food it will be well to recall a few points in regard to the ideal food, breast milk. From a large number of analyses made for Rotch it was found that mother's milk is slightly alkaline, and contains fat 3 to 4 per cent., albuminoid material 1 to 2 per cent., sugar of milk 6 to 7 per cent.—total solids 12 per cent. Cow's milk on the contrary is slightly acid, and contains fat 4 per cent., albuminoids 4 per cent., milk sugar 4.8 per cent.—total solids 12.8 per cent. It is thus seen that while cow's milk contains about the required amount of fat, it has from two to four times too much albuminoid material, and about one-half the required milk sugar. When cow's milk is diluted by the addition of three parts of water, the use of which dilution will be noted below, we have fat 1.33 per cent., albuminoids 1.33 per cent., milk sugar 1.6 per cent. This gives about the required amount of albuminoids, but the fat and sugar are diminished about one-half and five times respectively. It is thus seen that cow's milk, unless certain decided changes are made in it, is never a suitable permanent food for the infant. Moreover, without such decided changes cow's milk is likely to upset the digestive tract, or cause the more serious constitutional trouble of infantile atrophy or rhachitis.

It is a well-known fact that cow's milk can be so modified as to approximate mother's milk. At present in large cities milk laboratories have been established where the proper constituents can be put together to represent any strength milk desired. This is heated to 167° Fahrenheit which without damaging the digestibility of the milk retards the growth of bacteria so that absorption in the digestive tract takes place rapidly. A home modified milk of suitable strength may be made by taking cream three parts, milk two parts, water ten parts, lime-water one part, milk sugar two heaping teaspoonfuls to the pint. This should be heated to 167° Fahrenheit, and kept at this point for twenty to thirty minutes.

No mention is made of patent foods, for, as Rotch says: "I am strongly impressed with the belief that with our present physiological, chemical and clinical knowledge all the patent foods are entirely unnecessary. * * * It is, therefore, high time for physicians to appreciate exactly how inefficient in themselves, and how misleading in their claims are these artificial foods, and also in what a false position as the protector of and advisor to the public our profession is placed whenever it lends itself to even a toleration of their use." Ease of preparation and reputed cheapness should not be a consideration when the health of a human life is at stake. Every one of the twenty-five cases in the list had taken a patent food previous to the diarrhea.

The treatment of the functional form of diarrhea is very simple—abstinence from food for twelve to thirty-six hours with a little boiled water occasionally. If the patient is prostrated, three to five drops of brandy may be added to the water three or four times a day. As this form is more common in nursing babies, it may be advisable only to reduce the number of feedings to effect a cure in the mild form. In a few days the disease runs its course, if not aggravated by treatment.

The fermental form, however, is more serious and more common. If the movements are very foul or very acid, and not very large, it is well to give a powder of calomel, one-eighth grain, with sodium bicarbonate, one grain, or of the triturated calomel, one-tenth to one-twelfth grain, with the sodium salt every hour for three or four doses. This will clean out the offending material in the bowel, and tend to assist the liver, of the function of which in the infant we are still in doubt, but from the size of which we know it must assist materially in the digestive process. The baby should now be put on a dilute form of cow's milk, say one part of milk to two of water, or in very severe cases in which the diarrhea is excessive one part of milk to three of water. It is well to add from one-eighth to one-twelfth part of limewater, to help render the milk alkaline. Such food reduces all the constituents except the albuminoid portion to less than one-half the strength of human milk. Since excess of fat or sugar in the food is common, this dilution works very well, and even in the other cases the albuminoids are so much reduced from what has been given previously that the germs active in producing the diarrhea have nothing to grow upon, and the number of dejections rapidly diminishes. It is frequently easier to use the laboratory milk in such cases in proportions depending somewhat on whether the dejections are acid or foul. In the acid form the albuminoid portion should be lessened and a milk of this strength might be used fat 3.5 per cent., sugar 6.5 per cent., albuminoids ¾ per cent., instead of the normal strength 4, 7, 2 respectively. In the foul form the fat and sugar should be decreased, and we might use this, fat 3 per cent., sugar 6 per cent., albuminoid 1.5 per cent. Since no two cases are alike, no two cases are likely to require the same strength of food, so that judgment must be used in selecting the strength needed. In from thirty-six to forty-eight hours a stronger food can be gradually used to approximate human milk. Occasionally a longer time than this will elapse before the change can be made.

The feeding should be every two hours to infants under three months, every three hours to those between three and six months, and every four hours to those between six and twelve months. If the baby is very weak during the treatment three to ten drops of brandy every three hours will keep up the strength. Restlessness and peevishness during the attack may be relieved by sodium bromide, two or five grains, three times a day.

In infants over one year the treatment is along the same lines except we must remember that food nearer approximating cow's milk is the best for such cases. All food other than milk or broths should be cut off entirely. In a few cases, and more especially those occurring in the second year, subnitrate of bismuth, three to ten grains, after every loose movement is useful, but regulation of the food is usually the most effective treatment.

Finally, the nurse or attendant should be carefully instructed by the physician just how to prepare the food, just when to feed the infant, and just how to feed it. The doctor does not do his duty who gives a prescription for a drug, and the general direction, "Regulate the food." A few careful directions may make the difference between a cure and a failure. A little paregoric or bismuth, and a patent food to be used according to the label on the bottle is an easy way to get rid of a case, and no matter how successful it may be in some cases is not the most scientific way to treat a summer diarrhea.

This subject includes nearly the whole of infant feeding which within the past few years has made such rapid advances that I shall regard myself fortunate if in the time allotted me I have given any adequate outline of this, perhaps, the most important subdivision of infant diseases.

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PYOSALPINX.*

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THE subject that I have selected for my paper this evening is very important in many respects, not only to the surgeon, but to the physician in general practice who is liable to meet with such cases frequently, and to the patient whose welfare requires that a proper diagnosis and treatment be adopted.

We have first to consider that we are confronted with a pus-forming cavity situated within the peritoneal cavity. How should it be treated? We understand that the normal tube is about four or five inches in length on either side of the uterus, having its origin at the upper angle, or at the junction of the body with the fundus of the uterus, and consisting of three coats, mucous, muscular and serous. The mucous membrane first becomes inflamed as the result of traumatism, sepsis or gonorrhea, producing a muco-serous exudation. This exudation being enclosed within the tube, soon takes on a septic formation resulting from infection by streptococci or gonococci germs.

We are happy to know that there has been a very fortunate provision by nature, resulting from inflammatory action, whereby the abdominal opening of the tube is usually closed or we would otherwise have the fluid escaping into the peritoneal cavity, a condition that would undoubtedly precipitate a virulent attack of septic peritonitis and thereby cause death to our patient.

We might ask how this germ finds its way into the tube to produce such unfortunate conditions. If we have a septic cervical endometritis, and it continues for any length of time without treatment, it will surely make its way up through the uterine cavity to the opening of the tube, inaugurate there a like state of affairs, and finally work its way into the tube. The escape of the pus formed within the tube is usually prevented by an inflammatory closing of the exit of the tube, and we then have locked up a suppurating fluid which gradually develops the following symptoms according to the severity of the attack: Pain in the inguinal region, that may be slight or severe, but very sensitive on external pressure. The pain is increased on walking or standing a great deal. When the pain is very severe the patient is liable to keep her bed more or less of the time, with the thigh flexed on the affected side. At the approach of the menstrual period the pain is greatly increased. She has an irregular, low or high temperature, with frequent sensations of chilliness, according to the length of time and severity of the attack, or the quantity of pus retained in the tube.

*Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

By digital examination you will find at the side, or behind the uterus, and sometimes pressed low down into Douglas' pouch, an enlarged oblong mass that is usually immovable and so sensitive on pressure that your patient will shrink from your manipulations.

The prognosis of pyosalpinx does not necessarily involve immediate peril, for the condition may continue for many months without much danger of rupturing the tube, and finally discharge into the vaginal cavity, peritoneal cavity or through the uterine opening of the tube into the uterus. Rupture into the peritoneal cavity would prove fatal to your patient, but fortunately this accident is usually prevented by adhesions around the tube, making its walls quite firm and safe from intraperitoneal rupture.

After you have made the diagnosis of a purulent accumulation within the tube, there is but one thing left for you to do, and that is to use the best means to free your patient as early as possible from the deplorable condition she is enduring. There is a great difference of opinion as to how this should be done. Some surgeons very strongly assert that the better way is by abdominal section, as there is liability of meeting with a great many adhesions that cannot be managed in any other procedure. You would also undoubtedly have a great many bleeding points from breaking up of the adhesions that could not be seen and controlled unless you had free access to the abdominal cavity. If you elect abdominal section, you should control all bleeding points down to, and before dividing, the peritoneum. After you have entered the peritoneal cavity you will undoubtedly find the tubes more or less adherent, and such adhesion should be broken up before tieing off and severing the tube from the uterus. After you have stopped the hemorrhage from all of the bleeding points, flush out the cavity with a hot sterilized solution or not, according to the surgeon's own good judgment. As for the closing of the abdominal incision, you may use the kangaroo tendon or catgut for suturing the wound entirely, or employ the two for the peritoneum, fasciæ and muscular sheath, and draw the integument together with silkworm-gut or silver wire.

Professor Pryor, of New York, whom I have seen operate for pyosalpinx many times, both by the abdominal and vaginal methods, reports several cases treated successfully by divulsion, and thorough curetting of the upper cornu of the uterus, and packing the cavity with iodoform gauze to aid in accomplishing a thorough drainage.

Tait also very strongly recommends this procedure. Skutsch, in *The British Medical Journal*, reports cases in which he had stitched the pyosalpinx to the abdominal wound, and then opened and washed it out and allowed it to drain. When the discharge ceases to be purulent in character, he separates it from the abdominal wall, and lets it drop back into the abdominal cavity. This plan of treating pyosalpinx I would most strenuously refrain from adopting, for I should consider the diseased tube of no further use to the patient and consequently ought to be removed, together with all of its inflammatory exudation.

Doctor Waldo reports a case of pyosalpinx to The New York Obstetrical Society which could be emptied into the vagina by using slight pressure.

Doctor A. P. Dudley reports several cases of pyosalpinx that have discharged through the uterus. The specimen which I exhibited before this society on February 10 was an interstitial fibroid of the uterus, with a hydrosalpinx, and careful dissection demonstrated that there was no possible chance for its contents to escape through the uterus, as the uterine opening of the tube was entirely sealed. The same condition often exists with pyosalpinx, and would prevent discharge through the uterus. In the October number (1894) of *The American Gynecological and Obstetrical Journal*, Doctor Joseph Price says: "I have repeatedly made the statement that pus tubes never discharge through the uterine cavity, and I desire to repeat it with unqualified emphasis." He also states that "They can take a typical case, or fifty of them, compress or manipulate freely the tortuous distended tubes, and not a drop of their contents can at any time be expelled from the uterine cavity." Doctor T. J. Watkins, of

Chicago, reports a case in *The American Gynecological and Obstretrical Journal* which disproves the above statement. He says: "While separating the adhesions of a pus tube on the left side, I noticed that the tumor suddenly decreased in size without rupture, and fully four drachms of pus were forced out through the uterus into the vagina, over the vulva and onto the operating table."

Some operators remove the pyosalpinx through the vagina, but I should not recommend this method unless you are positive that there are no adhesions, and this is a condition that you rarely find.

I will close my paper by giving you a few short clinical reports of patients that I have already operated on for pyosalpinx:

Case I.—Mrs. W., aged thirty years, entered Saint Mary's Hospital November 6, 1895, with a history of bilateral laceration of the cervix, a condition caused by the birth of her last child, which occurred eight years ago. She had been able to do her own housework until after she contracted a gonorrhea from her husband last May. The physician who had her in charge said that several weeks subsequent to acquiring this disease she developed fever that frequently indicated a temperature of 104° Fahrenheit. On examination I found a bilateral laceration of the cervix, a marked tenderness in each inguinal region, and the tubes very much enlarged. I made a diagnosis of pyosalpinx and operated November 26, 1895. When the patient entered the hospital she was not in condition for the operation, having become greatly prostrated from her long sickness. I had her prepared for the procedure by the aseptic bath, shaving of the mons veneris, and thorough evacuation of the bowels. I made the abdominal section in the median line, and on entering the peritoneal cavity I found the two tubes very much enlarged and adherent. After breaking up the adhesions I tied off both tubes close to the uterus and severed them from the same. There were many bleeding points from the breaking up of these adhesions, which necessitated tieing to control hemorrhage. I used the catgut ligature for the buried suture in closing the peritoneum, fasciæ, and muscular tissue, and the silkworm-gut for the integument. She made a good recovery, the wound healing by first intention, and left the hospital four weeks after the operation.

Case II.—Mrs. Ruby D., aged twenty-three years, the mother of two babies, entered Saint Mary's Hospital December 7 to submit to the operation for pyosalpinx. I attended her in her first confinement, which was instrumental. There was no laceration of the cervix or perineum on this occasion, and she made a nice recovery. I also attended her through her second confinement, which was also instrumental. She had a very hard labor, with a bilateral laceration of the cervix, and a small laceration of the perineum. She did not do well after this labor, having fever several days, but not to exceed 102° Fahrenheit. She was about the house for three months, and was then taken to her bed with a gradually increasing pain in her right inguinal region accompanied by fever, which was irregularly low and high for several days, when it gradually subsided until the temperature became normal, and she was again about the house. The following few days she experienced no fever, but the tenderness and pain still continued and compelled her to again take to her bed, the increasing pain finally extending to the left inguinal region. She suffered another two weeks without improvement, and I advised her to enter Saint Mary's Hospital, an operation being necessary to afford relief. She was in the hospital one week before I operated, with intense pain in each inguinal region and a daily temperature of 101° to 103° Fahrenheit. I operated on December 14 and found a double pyosalpinx, with marked adhesions. I closed the abdominal wound by using catgut for the buried suture and silkworm-gut for the integument. She made a good recovery, the wound healing by first intention. I do not consider the above case one resulting from gonorrheal infection, but from some septic infection following her confinement.

Case III.—Mrs. Maggie R., aged twenty-four years, had been under treatment at her home for several weeks when I was called to see her. On careful examination I found the case one of pyosalpinx resulting from gonorrheal infection, and advised the patient to enter Saint Mary's Hospital at once and prepare for an operation, which she did on the following day. I operated on January 29, and found a pyosalpinx on the left side, an atrophied ovary on the right side, and a great many adhesions to break up. This abdominal wound was closed in the same way as in the previous cases, except that it was necessary to leave in a drainage tube for the first twenty-four hours. She made a good recovery.

SOME RECENT CASES OF MINOR SURGERY.*

By F. B. TIBBALS, M. D., Detroit, Michigan.

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I am well aware that the only popular surgery of the present decade is gynecological, but as this specialty will not accommodate all of us, the adult female comprising only about twenty-five per cent. of the total population, there must of necessity be general practitioners and general surgeons.

The general practitioner of surgical bent, however, occasionally finds surgical cases in which lesions exist outside of the pelvis and abdomen, some of them trivial in character as regards hazard of life, yet all demanding treatment along good surgical lines. I wish to report tonight some cases of this kind—minor surgery—which have come under my care, mostly within the last two years.

Some of these cases seem possibly too trivial to report, but success in little things often pleases the patient, and occasionally lives are at stake as well. For convenience in discussion I will classify my cases under three heads and for brevity's sake avoid all unnecessary detail.

I.—ABSCESSES AND POISONED WOUNDS.

Retropharyngeal abscess resulting fatally.—The patient was a woman of uncertain antecedents. When first seen she exhibited a temperature of 105° Fahrenheit and was suffering from dysphagia, vomiting and purging. Examination of the throat disclosed no abnormal condition except diffuse redness of the pharynx. The tongue soon swelled so that further examination was impossible, and the patient died suddenly two days later suffocated by the bursting of the large abscess disclosed postmortem.

Retrorectal abscess, absolutely painless, rupturing without any premonitory symptoms into the rectum four inches above the anus.—I could pass a probe some six inches into the fistulous tract leading off from the rectum posteriorly, and was thus able to wash out the abscess cavity with hydrogen peroxide and other antiseptics, throwing in afterward through a powder-blower boric acid plus a little iodoform. The cavity closed down after three months' treatment, but the fistulous track, kept open by the involuntary muscular action, continues at times to discharge a little pus aggravated always by constipation. As this patient has since been assured by several Detroit physicians of supposed intelligence that he never had such an abscess, but, on the contrary, catarrh of the stomach with intestinal sequellæ, I take this opportunity of reporting the case at this length.

Superficial abscesses in the cervical and axillary regions are generally due to breaking down of lymphatic glandular tissue and usually heal promptly after free early incision, curettage and packing for drainage. I have a record of a dozen such cases which I will not weary you in detailing. Oftentimes suppuration beginning in this way, if not promptly treated, is carried by metastasis to other glands adjacent or remote, and the case may terminate in general pyemia or general tuberculosis. A striking illustration of this fact has been for nearly a year under my care, the patient being a girl of about twenty without hereditary taint. The trouble began some three years ago in one or two superficial glands of the neck which were not incised. In a few months all the glands of one side of the neck, both superficial and deep, became infected, and a radical operation then undertaken failed to extirpate more than a part of the diseased tissue. When she came under my care last summer one side of the neck and part of the face was a mass of suppurating fistulous tracts, and there were also four open unhealthy sores elsewhere as sequelæ of abscesses allowed to rupture spontaneously. Within a short time I opened and drained ten other abscesses, all but one subcutaneous. Every effort was made by tonic supportive treatment internally, and stimulating antiseptics locally, to build up the patient and antagonize the autoinfection with, for some months, gratifying success. No new abscesses formed, many of the open sores healed kindly, and the patient gained in weight and strength. But on the opening of winter suppuration began anew, attended by emaciation, loss of strength, afternoon temperature and night sweats, and the case is now persistently retrograding. In all probability this poor girl's life might have been saved by timely surgical treatment at the inception.

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*Read before the Detroit Medical and Library Association.

The same reasoning applies to *suppurating nonvenereal glands of the groin.* I have four cases recorded—two which were incised, curetted and packed as soon as pus *began* to form, and two which came into my hands at a later stage. The first two healed promptly, while the others dragged a weary course of several months.

Abscesses of this character occurring usually in individuals of the strumous type are frequently obscurely tubercular, and the prompt removal of the local nidus will often prevent secondary systemic infection. Another argument for early surgical interference in all cases in which pus can be diagnosed or even suspected is the prevention of deformity and loss of function. A housemaid came to me a year ago presenting a useless hand as a result of a neglected felon on one of the fingers. The wrist was absolutely stiff, the fingers nearly so. I broke up the adhesions by considerable force under anesthesia with daily passive motion following, repeating this forcible manipulation under anesthesia every ten days for three months, at which time I had obtained only slight wrist movement but perfect use of the fingers.

From quite a number of *poisoned wounds* I select three of the hand in which the cut was made by glass. All were seen immediately after the injury, carefully cleaned, fragments of glass searched for, and antiseptic dressing applied. I do not know whether the irritant is traumatic, chemical, or bacteriological, but in my experience wounds of this kind are very slow in healing. Even when there is no pus formation the edges become inflamed and infiltrated, union by first intention being the exception.

II.—INJURIES TO JOINTS.

Compound dislocation of the Elbow.—This patient was a locomotive fireman, injured fifty miles outside the city. While oiling his engine the throttle flew open and his arm was caught in the driving wheel, a compound dislocation of radius and ulna backward resulting. The dislocation was reduced, wound dressed, arm put in a rectangular splint, and the patient sent to his home in Detroit. I did not disturb the dressings until thirty-six hours after injury, when he had a short chill, the temperature rapidly jumping to 103° Fahrenheit. I found the arm doughy, swollen and inflamed to the shoulder and the elbow joint full of pus. Free incisions were made and drainage tubes introduced in several directions through and about the joint and free irrigation used two or three times daily of hydrogen peroxide, full strength. In forty-eight hours he was out of danger. Passive motion was begun early and today the arm is as good as ever.

Two cases of separation of the lower epiphysis of the humerus treated by angular anterior and posterior splints and early passive motion.—The diagnosis between this condition and fracture above the condyles is sometimes difficult but in children epiphyseal separation is the more common.

I had the pleasure recently of examining a fractured elbow-joint, the result of great indirect violence in a girl of sixteen. There had been a fracture across both condyles, the fragment being split vertically with dislocation of both radius and ulna. The surgeon attending had found it impossible to maintain everything in normal position, and the result after two and one-half months was ankylosis in the true joint with a good false joint through nonunion of the fracture. I advised, and I think rightly, noninterference, as the arm is free from pain, and can be perfectly flexed and extended though with somewhat impaired pronation and supination.

The Knee.—In speaking of the knee I shall confine myself to sprains of which I have recorded six cases, two of them being physicians. One chronic case was much benefited by four months' use of a plaster cast. In another (a physician) the injury to the joint structures had been very severe, and a month after injury he was unable either to step upon the limb or to extend it within an angle of thirty degrees of straight. I put him in bed with a weight and pulley attached to leg. In five days the leg was straight, and protected by a snugly fitting cast, he resumed practice. One week later the cast was removed at night, and a month later entirely discarded. My method of treating an injury of this kind, if seen early, is complete rest in bed, evaporating anodyne lotions for pain and firm compression by means of a Martin's rubber bandage. When the swelling has been thus reduced a well-fitting cast is applied and the patient allowed to get up, due care being taken that resumption of the use of the leg is gradual.

The Ankle.—The same treatment applies in the main to sprains of the ankle-joint. I keep the patient quiet a few days until the pain is lessened, and swelling reduced by Martin's bandage; then apply firm compression from the toes well up the leg by strapping with adhesive plaster, and encourage the patient to use the joint. The five cases which I have treated in this way gave uniformly prompt and gratifying results. The method of strapping is as follows: First. protect the skin by a layer of gauze, adding cotton over the prominent bony points. Then begin at the toes, using strips one to one and one-half inches wide and fifteen to eighteen inches long, and cover the whole foot to the lower third of the leg with overlapping strips firmly applied. In this way better than any other we get firm support, at the same time allowing limited use of the joint.

III.—VARICOSE ULCERS.

The same method of strapping I have found useful in seven cases of *varicose ulcer*, applicable when the ulcer can be kept dry enough not to require too frequent dressing. The successful treatment of varicose ulcer requires three things —time, patience, and rest of the affected leg. The wide range of expedients recommended proves the obstinacy of the condition. I think rest and firm support in aid of the return circulation are primary factors to which local treatment is secondary. Two of my cases have been unsatisfactory because I could not enforce the most essential feature—rest. One seen only in consultation drifted away from the attending physician. The other is now progressing nicely with rest, in a hospital. The local treatment which has seemed to me most beneficial is scarification of the edges, or occasional stimulation with silver nitrate stick applied lightly also to the ulcer, cleanliness, dressing as infrequently as possible with iodoform or other antiseptic powder, meanwhile keeping the limb elevated and well bandaged. In two of these cases the ulcers were very large, three inches square at least, but were completely healed in less than six months. In one case I elicited a syphilitic history and by giving large doses of potassium iodide and indifferent local treatment, soon healed two varicose sores which had resisted four years of treatment at the hands of a fellow practitioner. I trust the wide range of my paper will offer free scope for discussion.

SOME INTERESTING CASES OF SMALL-POX.*

By E. H. SARGENT, M. D., DETROIT, MICHIGAN.

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THE term "varioloid" is in one way a misnomer, for it is not "variola like," as its derivation would lead one to suppose, but variola itself, in a mild form. It is no more right than to say that a mild case of measles is "measleoid," or a slight fracture is a "fracturoid." The idea that variola and varicella are but different types of one disease is past argument now, although every physician recognizes the trouble their similarity causes.

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*Read before the DETROIT ACADEMY OF MEDICINE.

Since vaccination has become general in civilized countries, variola has been shorn of its terrors, and in Germany is not even isolated, but is treated in the general hospitals. Although vaccination protects that individual from a severe attack he may transmit it in its most fatal form. When one sees the results of compulsory vaccination in Germany and compares them with the statistics of other countries where it is not compulsory, he is tempted to forcibly state that not all fools are dead yet.

It is a well-known fact in natural history that environments modify the structure of all animals, and it is a great obstacle to the bacteriologist that few animals are susceptible to the germs that persecute humanity. With animals it is a general rule that carnivors are not very susceptible to the diseases of herbivors. It is, in other words, the old story of the survival of the fittest in the struggle for life. The carnivor feeds on the flesh of the herbivor; if the former is susceptible to the latter's diseases he and his tribe run great risk of perishing. Doubtless in past ages many did thus perish, but in the lapse of time there has been developed by this gradual weeding out of feebly resisting individuals the present races of flesh eaters that can feed with impunity on the bodies of diseased animals.

Let us apply this rule to humanity. Individuals of the same family differ in susceptibility to the children's diseases and families will differ during epidemics. Carrying the illustration still further, tribes, nations and races show their peculiarities. The black race, from living during countless generations in the tropical swamp regions, has become, through the process of natural selection, almost immune to the malarial fevers so deadly to the whites. With the subject in hand, however, the white man has the better of the negro. Variola is a disease of temperate and cold countries. It has existed without doubt since long before history began, and in that time the white race has acquired by natural selection something of an immunity, although it is now far less than we could wish it to be. This has been shown only too well when the disease was introduced among the aborigines. Variola was the Spaniard's best friend in Mexico, and has been more potent than rifle or sabre against our Indians and the Pacific Islanders, sweeping off whole tribes at once, sparing scarcely enough to tell the tale.

Vaccination secures immunity for a time, inoculation for a longer time, and the disease itself usually for the remainder of life. We find marked differences in individual susceptibility to this disease as will be brought out further on. The question of immunity is to me one of absorbing interest, and it bids fair to cause great changes in our treatment of many diseases of microbic origin. At present the subject is only in its infancy. There are many curious and interesting facts in both human and animal diseases in connection with immunity; many have noted the freedom from infectious diseases enjoyed by nurslings, and the greater susceptibility developed soon after taking them from the breast. The explanation is this: They are fed with the milk of an immune mother, and by it are for the time being made immune. It is a rule that works both ways, however, for it is as possible for the mother to infect her child by means of the milk as to protect it. In regard to variola I am on the lookout for recorded cases occurring in infants at the breast of a mother who has herself had variola within a few years.

When the geologist studies the remains of life of bygone ages, he finds that as a form dominant for a long period of time nears extinction it takes on peculiar and often puzzling characters. I think the same may be said to hold good to some extent in our infectious diseases. As an epidemic nears its end atypical cases are frequent, from the fact that most of the best available material has been already used up and the disease is, so to speak, going over the cullings of its first sweep.

In the recent outbreak at the House of Correction, the disease showed in a most striking manner one of its traits. It is stated in standard works that variola is very severe on those who have led dissipated, debauched lives. Many of the criminals in that prison are of that class. Of the seven cases of variola there, six died. Of those six at least four were hemorrhagic. One died at the prison almost before it was possible to detect any rash, so intense was the poison.

Mr. J., a boy of nineteen years, never vaccinated, was taken to the hospital in a typical hemorrhagic condition. He was delirious almost from the start. Hemorrhages occurred from the mouth, nose, kidneys and rectum, the eyes resembling two balls of blood, and the legs being purple to the knees. There was very little rash, and none visible on the face. He was an interesting, yet fearful example of what variola is in its worst form. Constant oozing of blood from the mouth and nose, and in his restlessness his hands would be smeared, then nightshirt, pillow-cases and sheets. The bedstead and wall beside it were stained with bloody finger marks, while the dribbling of bloody urine served to make bad matters worse. Soon ulceration and putrefaction began in the throat and nose and the odor became almost unbearable. The whole formed an impression that will not soon be effaced from my memory. Human strength could not long stand such a condition and death soon relieved him.

Mr. S., twenty-two years of age, not vaccinated, came to the hospital with the confluent form. He rapidly passed from bad to worse. The eruption became hemorrhagic and he died in a few days.

Mr. T., twenty-three years of age, was vaccinated when a child. He had a severe case of confluent variola with great swelling of the face. After it had passed to the pustular stage it became hemorrhagic and he quickly succumbed.

Mr. K., twenty-three years of age, not vaccinated, came to the hospital with a typical case of the severe discrete form, slightly confluent on forehead and chin. Recovery was delayed by a crop of furuncles subsequent to desquamation. Furunculosis following variola is quite common, due to infection of the skin by microbes from the pustules.

In this tube, which I will pass round, is a culture obtained under aseptic precautions from a typical vesicle from this case. The orange-colored patch is the common staphylococcus pyogenes aureus. The yellowish one is a peculiar shaped organism which I never before met.

Two of the prison cases were varioloid and either one of them might easily have led any but the most careful physician into error if she had come to see him at his office. Both worked in the prison laundry and had probably handled the clothes of the prisoner, whoever he was, who brought the disease to the institution. In the one case the patient had been vaccinated and the premonitory symptoms were not very severe. On the second day, however, the headache and backache were bad enough to compel her to stop work. One typical lesion came on the forehead and a few not so typical scattered over the limbs. The other case was a rare one if we can place dependence on her statements. It would be one of those cases of great susceptibility which are occasionally found. She gave the history of having had variola when a little girl, and the closest questioning could not make her vary her statements in that respect. There were no marks or pits visible but she could easily have outgrown them in the interval of some forty years. One and one-half years ago she was vaccinated and it worked well according to her statement. She now came down with a very mild case of varioloid, one typical lesion appearing on the right thenar eminence, three others on the left forearm, and several others not so typical on the trunk and knee. Had it not been for the presence of variola in the prison at the time I doubt if either case would bave been recognized. A headache and backache would have excited very little suspicion, and in each case there was but a single lesion not covered by the ordinary clothing.

Two other cases were of great interest to me since they brought in the question of hereditary immunity, or rather in these cases lack of immunity. The mother of these two girls had been inoculated with variola when a child, with negative result. She has been vaccinated several times since then with like results. Her two daughters were the two cases that caused so much trouble lately. The first one was sent to the hospital before I was connected with the health office, and I know nothing of her condition at that time. She returned home and came down with confluent variola and was taken back to the hospital and died there. While she was at the hospital the first time her older sister was vaccinated, and when the younger one was taken ill the second time, the sister's arm showed as typical a case of successful vaccination as I ever saw. Here comes the part difficult to explain. At the same time that her arm showed such a successful vaccination she was taken with headache and became quite ill. A rash appeared all over her face and body. There were hundreds of vesicles, many as strongly umbilicated as one could wish to see. It was pronounced varicella by one physician and varioloid by another. Both have had extensive experience with both diseases. The patient recovered perfectly and subsequently came down with a malignant case of confluent variola that later became hemorrhagic, from which she died.

This case brings up an important point. If the first eruption was that of vaccination or varioloid it should have protected her from subsequent variola. If it was varicella, did the varicella toxine neutralize the effect of the apparently successful vaccination? I have never known of a similar case and should be pleased to know of any that may occur. In this case there was no history or evidence of any other trouble; and although the mother exhibited a strong natural immunity to variola, her two daughters showed a great natural susceptibility to it.

Another case exhibited one of the curious freaks of this disease. It was in a man vaccinated about one and one-half years since, whose occupation was driver of a delivery wagon. No trace of how or when he contracted the disease. He was seized with violent symptoms, frightful headache, and temperature of 104°. The eruption covered the whole body and was almost confluent on some parts of the legs. Each lesion was hemorrhagic at the apex. A most unfavorable prognosis was given, and it seemed as though he was doomed to a malignant siege. With the maturing of the rash the symptoms abated and the eruption never went any further. I do not believe he had more than twenty pustules on his whole body and the recovery was rapid from this case of hemorrhagic varioloid.

The next case taught me a lesson in vaccination. It was a little girl of seven years, who had been vaccinated twice without success. The physician did not push the matter as I think he should have done. It was successful with the three other children and this little one was allowed to go unprotected after the second failure. She came down with confluent variola and died. The three vaccinated children remained well. A few months' old baby was one of the family and, together with the mother and father, was vaccinated as soon as the little girl was stricken. All three cases of vaccination were fairly successful, none severe; but, two weeks to a day after the child was taken down, both mother and father were seized with headache and backache and were both quite sick, one at the hospital and the other at the home. The baby was very fretful and ill also. After the above symptoms had subsided in the father and mother an eruption appeared on the face and hands in each, slight to be sure, but on the mother's hand were two lesions as typical as one could wish. A less well marked eruption appeared on the baby. The family physician attributed the eruption on both mother and child to the vaccination and was quite indignant that his diagnosis was ignored. He wished the quarantine raised but I will leave the question with you to decide whether with such a history it were not far better to take precautions for the public's safety than to allow those people to go on the streets with the scabs of varioloid or vaccination, whichever it was, still clinging to them.

32 ADAMS AVENUE, WEST.

THE ORIGIN OF STAMMERING.*

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BY GEORGE ANDREW LEWIS, DETROIT, MICHIGAN.
PRINCIPAL AND FOUNDER OF THE LEWIS PHONOMETRIC INSTITUTE AND SCHOOL FOR STAMMERERS.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

PROBABLY no class of unfortunates seeking relief for an affliction have received as little benefit as has the stammerer. So much that is erroneous and contradictory has been written and said about stammering and its cure that persons thus afflicted have become greatly confused and many who have given much time and study to the subject know not what to think.

The injurious modes of treatment resorted to by surgeons during the early part of the present century, together with the thousand and one or more useless theories that have since been advanced for the cure of this difficulty by as many charlatans and humbugs have probably served only to make the stammerer the more discouraged and have crushed his hopes of ever obtaining positive relief or permanent cure.

I shall not attempt to go into detail and describe the many nonsensical ideas that stammerers from time to time have had imposed upon them by the countless number of "professors" whose dupes they have been and to whom some of them have paid large sums of money. Many of these persons have applied to us for treatment, after having been thus victimized, and have related to us their former experiences. One stated he had been treated by correspondence and that he had been obliged to pay in advance for each letter of instructions. Another had paid a large sum of money for a badly mutilated tongue. A third had been told, as a great secret by a traveling "professor" (for which he had paid well), to wash the throat out every night with a gargle of salt and water and sleep with a pebble underneath his tongue. We have his statement for it that he continued to do this with faithful regularity for more than two years. A fourth told us that he had been under the treatment of an advertising physician, and produced as evidence a bundle of prescriptions. A fifth had worn an electrical band around his waist, to which were attached wires connecting with a pocket battery. A sixth had unluckily fallen into the hands of a hypnotist, who guaranteed to cure him in a half hour. A seventh had been placed under a heavy penalty of revealing the secret and told if she would move her head backward and forward every time she attempted to speak, she would in this manner open the glottis and the result would be a perfect and continuous flow of speech.

I could go on in this manner and fill a whole volume with the experiences of hundreds of stammerers who have been thus defrauded and victimized by these charlatans, from many of whom they received not one particle of benefit, notwithstanding their experience cost them, in many instances, an expenditure of a great deal of time and money. In fact, I have arrived at the conclusion that persons thus victimized are made worse than they were before their contemplation of treatment. Thus for years and years have been practiced different modes and methods for the cure of this distressing malady, the unfortunate sufferer finding out too late that he had been the victim of some dishonest quack, willing to take his money from him regardless of the benefit which he (the stammerer) should derive from the experiment.

Scarcely a day passes that we do not receive one or more letters giving a full and detailed account of former experiences through which stammerers thus victimized have passed. Many of our correspondents who have undergone one or more of such treatments without success express grave doubts as to a permanent cure. We never urge or offer inducements to such persons to undergo treatment, but rest the matter entirely with themselves. If our recommendations prove insufficient to convince them of the merits of our system, we furnish them with the names of a great number of persons who have attended our institute or who know of the success of our work, and ask them to write to any one or all of them if they so desire and ask an honest opinion concerning the reliability of our treatment. I would dwell longer on this cause of distrust did I not believe that enough has already been said.

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*Read before the WAYNE COUNTY (Detroit) MEDICAL SOCIETY.

Professor Herman Klencke, M. D., of Hanover, who conducted a school for the cure of stammering as early as 1840, and who was probably one of the first to denounce as quackery surgical operations and advance radical ideas for the treatment of stammering, very cleverly draws the following comparison: "Many physicians and 'stutter doctors' treat this disorder whose seat and cause they know nothing about. This procedure seems to me," continues Doctor Klencke, "like that of a person who would attempt to catch up with the bright spot which someone throws in his way by the reflection of the sun on a mirror, and who would strive to tread out the spot or cover it up with his hands."

Before entering into a discussion of the *origin of stammering* let us first consider the following definitions:

Aristotle defined stammering as the inability to articulate a certain letter, and stuttering as the inability to join one syllable with another.

Mr. Potter defines stammering, as commonly used, as "a temporary inability to articulate, the organs being tightly held together; stuttering, as the repeated utterance of one sound before the next can be uttered, both resulting from an inability of the will to control the organs of speech properly, and a deficiency of a ready response to the will by the organs themselves."

Again we read: "Stammering, the inability to produce certain sounds, or the substitution of one sound for another."

I quote from another authority: "Stammering is the result of a functional disorder of that portion of the brain which presides over the faculty of speech."

A number of English and American writers use the terms stuttering and stammering synonymously. Doctor Klencke draws the parallel as follows:

STUTTERING.	STAMMERING.
(1) The stutterer immediately begins to stutter violently when he is observed, and shows a spasmodic fear and apprehension.	(1) The stammerer usually speaks better when he is observed and thus forced to pay attention to himself, and only under peculiar circumstances does he show fear and apprehension.
(2) He does not betray his defect in slow, measured declamation, or in singing, or when talking in syllabic measure.	(2) He betrays his defect when careless, in singing, declamation, and measured talking.
(3) He exhibits an agitation of his respiratory organs and congestion of the blood in the chest and head, which is increased in proportion to his efforts to overcome his difficulty, and there appears a convulsive action of the chest, throat and head.	(3) He never exhibits an agitation of his respiratory and blood circulating organs, neither nervous nor convulsive action, and by action of his will he can partly or wholly overcome his defect.
(4) He can correctly form all consonants as separate sounds, without a loud tone or in a whisper, but begins at once to stutter if he attempts to join certain sounds with the voice or with a vowel. His voice evidently fails by the wrong action of the mechanism of the muscles, respiration and voice function.	(4) He does not have the least difficulty in the formation of his voice. He betrays his defect as much in loud talking as in whispering, and the combination of his defective sounds with the vowel meets with hindrance.

In addition to the above, Doctor Klencke also gives the following: "Stuttering is a defect which is manifest only in talking and not in singing or declaiming. Its causes lie in the auxiliary organs of speech, in the organs of respiration and vocalization, without the articulating organs being primarily affected. Stammering, on the contrary, is a defect which is manifest the same in singing and declaiming as in talking. Its causes lie in the organs between the larynx and the lips, in the articulating organs."

PROFESSOR A. KUSSMAUL, of Strassburg, says, in "ZIEMSSEN'S Cyclopedia of the Practice of Medicine," Volume XV, page 633: "Stammering consists in the incapacity to pronounce the letters properly, while in stuttering there is temporarily a spasmodic inability to vocalize certain sounds, especially the explosive consonants."

The above definitions are but a few of the great number we have been given at different times by different authorities. In fact such a great number of theories have been advanced, probably for the reason that scarcely two persons experience this difficulty in exactly the same manner or under the same conditions, that the stammerer has been compelled to accept a conglomeration of ideas concerning the real nature of his malady, and grope his way in the dark in his effort to free himself from his unfortunate affliction.

Stammering has been confounded with stuttering, and *vice versa*, in consequence of which a multitude of entirely dissimilar conditions of abnormal speech have been heaped together and designated either stammering or stuttering, a general cure applied which, in a few cases, proved successful. The entanglement became still more increased when the ignorance with regard to stuttering, under which term at one time all other defects of speech were included, stimulated the surgical craze to search for local causes. In consequence of this entanglement of ideas concerning the real causes and conditions of stammering sprang forth as many ideas setting forth innumerable methods of treatment. I do not wish to infer that all persons thus interested were imposters, but would rather attribute the mistakes of many of them to ignorance of the true origin of the difficulty. While many errors were thus being made, much good was being accomplished, although the stammerer's tongue oftentimes suffered mutilation and untold misery for crime of which it was not guilty.

The continued investigation on the part of eminent scientists and physicians in search for an infallible method of cure brought forth advanced ideas, which sooner or later must abolish the crude theories of early investigators. To the painstaking efforts of a few who gave almost their entire lives to the study of this neglected subject are we indebted for the fundamental principles from which modern methods of treatment have since evolved. When I say modern methods of treatment I do not refer to the many schemes and trickeries that have been imposed upon the stammerer by charlatans or pretentious professors, some of whom know not the first principle of the correct basis for voice or tone production, and a few of whom have amassed ill-gained fortunes from the unfortunates who were unlucky enough to fall into their clutches. I refer to the methods of treatment and of business dealing entertained by a few conscientious and practical workers, who are endeavoring in behalf of the stammerer to not only crush out the trickery and deception of these undeserving persons and bury the crude practices of surgery, but who are striving to give to their fellowmen a practical and thorough means of eradication for an affliction that is probably one of the most severe, certainly one of the most neglected, of all human ailments.

In conclusion of my remarks concerning the difference between the definitions of the terms "stammering" and "stuttering," I give herewith in a single sentence the consensus of opinion of the best authorities of modern times of this country and Europe, supported by my own personal experience as a sufferer from a most severe type of stammering for more than twenty years.

STAMMERING.—The inability, under certain conditions, to articulate, or control the organs of speech, which are usually, under such circumstances, tightly held together, accompanied, in many cases, by the substitution of one sound for another.

STUTTERING.—A defect in respiration and vocalization, oftentimes causing spasmodic action or the rapid repetition of one word or syllable before the following one can be uttered.

The former is due to a deficiency or lack of exercise and control of mental energy of the will over the organs of utterance, and is usually accompanied by contorting the features, rolling the eyes, or drawing the limbs. The latter, due to an improper manner of breathing and vocalization, is usually accompanied by spasmodic actions of not only the speaking organs, but oftentimes the whole body becomes violently convulsed and contorted.

Having thus considered the definitions of stammering and stuttering, let us now enter into and discuss the real origin or primary cause of this difficulty. If you will follow me closely I will endeavor to carry you with me through a practical and scientific investigation, and locate if possible, the real source and origin of stammering. I shall confine my statements wholly to my own practical views on the subject, gathered from years of careful study of recognized authorities and from contact with many persons thus afflicted, both before and since my cure.

We have already determined that stammering is an impediment of the speech. Let us consider. What is speech? **Tupper** has very appropriately said "Speech is the golden harvest that followeth the flowering of thought." Speech also can be considered a means of conveyance. I might quote many definitions for this term, but do not think it necessary. It conveys to us by the most direct means the thoughts of men, and is probably the most important instrument God has given to us. Let us then trace it to its origin and, by breaking it up into different elements, analyze it to discover, if possible, the original cause of the stammerer's difficulty.

(1) Ideas are received, arising either from immediate sensations, or originating in the brain in an abstract manner, and are arranged in proper succession by that organ.

(2) The will determines to give this train of ideas expression in any way it can. So far, the process of action can only be called mental.

(3) The stimulation to action of the motive nervous system connected with the speaking organs.

(4) The motive nervous system thus stimulated generates to action the vocal apparatus resulting in articulate speech.

Each step is, of course, tributary to the preceding one and as long as all act in harmony, one with another, fluent speech and perfect articulation are the result.

The question now arises, where in this chain do we find the deficiency that manifests itself in the stammerer. Let us go back and discuss the first element considered.

To argue that the elaboration of thought in the brain of the stammerer is deficient and its arrangement for production unsystematic is to argue that the stammerer, intellectually speaking, is not only weak-minded but lacking of intelligence. Do we find this to be the case? The fact that many of the brightest and brainiest men of ancient and modern times have suffered from stammering is conclusive evidence that stammering is not due at least to any lack of intellectual power on the part of the person thus afflicted. History tells us of many notable persons who have stammered. It is announced that Louis II of France, and Michael II were both surnamed LeBegue, meaning stammerer. Louis XIII of France, was also a stammerer. The Reverend Canon Kingsley was a stammerer. Charles Lamb was a stutterer, and the notable physicians, Viosin, Palmer, Chegoin, Merkel, Guillaume, D'Alais, Bacquerel, and Cohen were all stammerers. Allusions to this disorder are found also in the Bible. Moses was a notable example. The Ephraimites, and those whom Jesus cured of their impediments of speech.

Having thoroughly satisfied ourselves that the defect is not manifest in the first element of speech, let us proceed to and consider the second: The will determines to give this train of ideas expression in any way it can. Is the desire to give utterance by physical act to internal thought in any way necessarily lacking in the stammerer originally? If so, the defect must arise from either excessive or deficient energy or desire, in which case we would find that the stammerer, during infancy, before speech is complete, would be wholly unable to cry. It uses this means of making known its wants, and if the defect originated from a deficient or excessive mental desire, we would find this child, when it attempted to make known its wants, would not only be wholly unable to do so, but would, through its efforts, betray all the symptoms of a stammerer. We usually find, however, that the stammerer as a child does not betray the symptoms of his affliction. It is not until a more complex action is thrown upon his motive powers that his defect is noticeable.

Let us now consider the third: The stimulation to action of the motive nervous system connected with the speaking organs. My belief is that here in this medium, which might appropriately be termed "The mental energy of the will acting on the accumulated nervous force of the motor organism of the body," exists the original cause of abnormal speech. I believe that there exists in some persons an idiosyncrasy amounting probably to an irritability or sensibility of fibre in that portion of the brain which controls the motions requisite for the production of speech, and that this peculiarity exposes it to be most easily disarranged and driven into spasmodic action by the ordinary mental desire to speak. The peculiarity would appear to me rather a difference in sensibility than in structure, from the circumstance that very many fluent speakers if not all persons are, in a measure, liable to the affection. Very powerful causes, such as horror, excessive perplexity, or shame will, under some circumstances, partially paralyze or convulse the power of speech in ordinary persons. The great distinction, however, being that the stammerer requires but a slight cause to overturn the balance of the machinery of speech, while the ordinary individual would require some extreme cause, such as seldom occurs to affect his fluency, and even then can easily recover again by the exercise of his will and reasoning faculties.

Having by this analysis detected what would appear to be the weak link, let us now proceed to the fourth element and find if there, too, exists any deficiency that would cause stammering. You will at once agree that there is not the slightest ground for the supposition that stammering is in any way attributable to physical defect or direct physical inaction of the vocal apparatus. The effect of the difficulty experienced by the stammerer is, of course, manifest to the observer principally in the organs of speech, yet the real cause of the malady is of a more obscure origin and by no means attributable to malformation of the speaking organs.

From an experience of meeting several hundred stammerers, I have as yet never found one single case where the difficulty was attributable to wrongly formed organs of speech. The fact that the stammerer can sometimes sing without the slightest difficulty, can oftentimes read aloud to himself without the least fear, and can at times speak perfectly words that give him the greatest difficulty usually, is sufficient evidence in proof of the above assertion. I do not wish to infer that the stammerer is any different in this respect from other persons. Because he stammers it does not follow that his organs of speech are perfect, but he is no more likely to suffer from malformation of the organs of speech than are persons not afflicted with stammering.

I scarcely think it necessary to offer any further argument in support of the fact that the real origin of the stammerer's difficulty is found in the third element considered. For abstract mind to act on abstract bodily organs, it is necessary that there be a medium. In this medium, I believe, exists the real origin of the stammerer's difficulty. Though hesitation is only a thing of degree from the most fluent speaker down to the most convulsed stammers, yet practically speaking, stammering does not begin until hesitation has arrived at such a pitch that the sufferer, by the exercise of his reasoning faculties, cannot collect himself and become master of the situation.

The reason that many children do not betray their affliction of stammering until they have attained the age of boyhood, is because in early life the mental desire is not excessive. It is probably the same as in any other child endeavoring to be understood. As life advances mental power develops, and when the child has become sufficiently old to use its mental function to any degree, it discovers an inability to express itself, either from hesitancy or convulsive action.

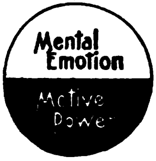
This difficulty is owing to the disturbance of mental emotion, the child through original physical weakness* not being able to bear more than the ordinary stimulus of the mind and will without betraying its defect. During the earlier days of its childhood, the mental activity was not as great, and hence the child stammered but little or probably not at all. The attention of the child is continually attracted to this peculiarity, which soon becomes second nature to it, and added to the original physical weakness the constant increasing mental emotion, soon overbalances the equilibrium of control, and although the original physical weakness may almost entirely disappear as the child advances in age, yet the difficulty of stammering remains.

It is an impossibility to determine, in any case of stammering, the exact amount of excess of mental emotion or deficiency of motive power.

Arguing from a supposition that these two influences, mental emotion and motive power, equally distributed would give to a person the ability to converse without hesitation under ordinary circumstances, I will endeavor to demonstrate to you by means of bodies of comparative sizes the difference between the mild and severe types of stammering.

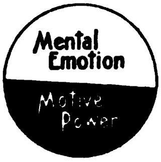
NUMBER I.—This body represents a person who can talk without hesitation under ordinary circumstances. If confronted with embarrassment, excitement, shame, or perplexity, mental emotion would increase to a degree sufficient to overbalance motive power, resulting in hesitation, stammering or convulsive action.

No 1



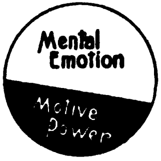
NUMBER II.—This represents a person who continually suffers from hesitation or who is addicted to stammering in a slight degree.

No 2



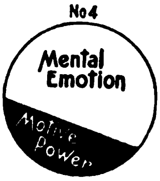
NUMBER III.—This represents a stammerer wholly unable to control himself under ordinary circumstances.

No 3



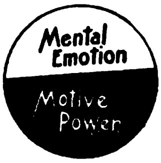
NUMBER IV.—This represents a most violent and severe form of stammering, oftentimes accompanied by dreadful contortions of the face, and convulsive actions of the muscles and limbs.

No 4



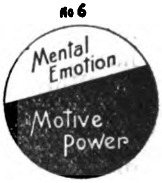
NUMBER V.—This represents the ordinary individual. Such a person would hesitate only under extreme excitement, and would rarely if ever lose control of his speech.

No 5



NUMBER VI.—This represents unusual ability to speak with confidence under the most trying test or circumstances, without the slightest uneasiness or apprehension of uncontrol.

No 6



The illustrations herewith presented represent but four different classes or degrees of stammering. There will be found to exist as many different degrees of stammering as there are individuals affected, as scarcely two persons can be found who experience difficulty in exactly the same manner. The influences, too, that cause the stammerer to betray his defect may be entirely different. One person will invariably stammer when brought into the presence of strangers, but never experience much difficulty among the members of his own household. Another will scarcely, if ever, betray his defect before strangers, but will invariably stammer when in conversation with immediate friends. One person can speak from a platform to a public audience after he has once entered into his subject, the great difficulty being in getting started. Another is able to begin without the slightest apparent difficulty, but will continually stammer when he gets warmed up to the occasion.

While it may be impossible to analyze the different phenomena of innumerable cases of this kind, yet we can without difficulty draw a parallel between the distinct and separate classes. I will call these for brevity and illustration—

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*There appears to exist in many stammerers a predisposed condition to the development of the defect. This idiosyncrasy exposes the brain fibre to be easily disarranged and thrown into spasmodic action by the ordinary mental desire to speak.

A—The physical type.

B—The mental type.

The former (A) is comparatively but little complicated with mental emotion, while on the other hand the latter (B) has probably lost much of the original physical weakness, but from the overbalance of the equilibrium of control, suffers materially from mental emotion, and is easily agitated and made worse. Some cases of the mental type, however, retain much of the original physical defect.

The nature of the former is almost entirely due to lack of motive power or original physical weakness, while the nature of the latter is almost entirely mental, the result of continually increasing and decreasing mental emotion. Stammerers who come under the denomination of Class A are troubled continually more or less, never much better, never much worse, always about the same. Excitement, shame, perplexity, anxiety, embarrassment, or impaired health does not much increase the severity of their affliction, while on the other hand stammerers who might be designated as belonging to Class B experience, during certain periods and while under certain conditions, scarcely any difficulty, but when suddenly confronted with excitement, shame, perplexity, anxiety, or when suffering from fatigue, exhaustion, or impaired health, they invariably stammer and sometimes violently.

Mr. A has the ability to address a public audience with as little trouble as he might experience when reading aloud to himself, while Mr. B could read aloud to himself with perfect ease and composure, but when called upon to speak publicly, owing to his stronger mental emotions, would be wholly unable to do so without betraying his impediment to a very great extent.

The different peculiarities of stammering manifested in persons belonging to either class would fill several complete volumes. The constant apprehension of fear on the subject of speaking entertained by the stammerer keeps his nerves continually in a state of agitation and unrest. His anxiety to speak fluently, the dread and fear that he may not be able to do so, together with the humiliation of an exhibition of his informity combine to increase the severity of his affliction. Many persons believe that stammering is the result of nervousness, but a second thought would, I think, convince them that nervousness is more often the result of stammering. This has been my experience, and the proof is evident from the fact that when the stammerer has gained control of his speaking organs, his nervousness has almost entirely disappeared. Having become master of the situation, there is not the least fear or apprehension on the subject of speaking, and thus the one great agitator of his nervous system has been removed. Gradually, the nerves settle back to a normal condition of rest, giving the once nervous and prostrated sufferer complete self-control.

Persons who stutter usually suffer only in a slight degree from an excess of mental emotion typical with the stammerer.

The original physical weakness of the stutterer may almost entirely disappear and yet the stuttering habit remain, owing to recollection, carelessness, force of habit, and association.

While the origin of stuttering is attributable to the same source as the origin of stammering, yet the former is more easily conquered and subdued. This is explained by the fact that when the original physical weakness of the stammerer disappears, we have left the mental phase of the difficulty to contend with, while with the stutterer, after the disappearance of the original physical weakness, we have but to correct an improper mode of respiration and vocalization, strengthen and develop the vocal and respiratory organs and gain an equilibrium of control. This accomplished, we have established a foundation upon which to build a cure.

The diagnosis and symptoms of a number of cases that have come under my observation would indicate that not a few persons who stammer and who suffer from excessive mental emotion have also acquired peculiar forms of stuttering. In their strained and labored efforts to give utterance to certain syllables or words, they have unconsciously acquired an improper mode of breathing. Losing control of their respiratory organs, they become wholly unable to vocalize certain sounds, their efforts resulting in contraction or convulsive action.

Whatever may be the outward manifestation of stammering or stuttering, one who has not passed through the ordeal can form no conception of the mental torture endured by persons who are thus unfortunately afflicted.

TRANSACTIONS.

DETROIT MEDICAL AND LIBRARY ASSOCIATION.

STATED MEETING, MAY 4, 1896.

The President, ERNEST T. TAPPEY, M. D., in the Chair.
Reported by WILLIS S. ANDERSON, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor F. B. Tibbals read a paper entitled "Some Recent Cases of Minor Surgery." (See page 408.)

Doctor Robbins: I do not know that I have very much to add to the discussion of **Doctor Tibbals**' interesting paper. Certainly the cases he has reported are a class that we all have to deal with, and therefore must be of interest to us. The first topic of the paper, that of abscesses, has been of interest to me, because within the past year, particularly, I think more of that class of cases known as enlargement of the inguinal glands, nonvenereal in character, have come under my observation and treatment than at any previous time in my practice, and I find in those cases that although we believe there must certainly be some point of infection, still the difficulty of determining the actual cause of the condition is often very great. I remember one case of a very large man, strong and robust —a saloonkeeper, I believe—who consulted me for enlarged inguinal glands but disclosed no history of any suppurative condition whatever. The case did not become suppurative, and although it was looked upon as one in which the removal of the glands might be of advantage, still I told him we would wait, and I would treat him with tonics and absorbents. He made a perfect recovery. I say perfect recovery, because that is as near as we can tell, as often these people drift out of sight before the thickening disappears. I recall two other cases which, having been scraped out and treated with a substance named loretin, got well in a short time. This is an excellent drug. It takes the place of iodoform and is entirely odorless. It is an iodine compound in the form of an impalpable powder, and until recently I did not know of the comparative expense of the two remedies. I learned today that the price per ounce of loretin is sixty-five cents, while iodoform costs forty-five cents per ounce. Loretin is not applied in full strength but can be mixed with boric acid in the proportion of one part of the former to three parts of the latter. In quite a large number of cases in which I have used it, I found it equally as satisfactory as iodoform. The subject of removal of enlarged glands is still an open question. It is always a great temptation when we see a string of glands down the neck or in the groin to remove them when that seems possible. In some cases in which they are superficial and easily removed I can see no harm in doing so. The doctor's treatment of sprained joints, especially of the ankle-joint, by using adhesive plaster is very applicable. I have had little experience with it, but in two cases in which I employed it I liked the treatment. The patients can get up and be about and at the same time be comfortable, whereas if ordinarily treated they would have to lie in bed several days.

Doctor Hitchcock: The cases cited by the doctor are very interesting, and this question of the removal of infected glands, as **Doctor Robbins** says, is an important one, and is not altogether settled. Some cases have come under my notice which have suggested some interesting facts. I recall one in which a gentleman, in his own garden, fell over a wire acting as a support to a rosebush. He very slightly abraded the skin over the tibia to which he paid no attention whatever for a day or two. It then became rapidly inflamed; he very soon had pains up the leg, and then in the groin. The whole chain of glands from the groin down became involved and the case made no recovery until they were thoroughly removed. This case was very interesting to me as bringing up the possibility of some remote infection of glands from an apparently slight abrasion. I do not think there could be any question as to the surgical procedure. No treatment short of a thorough extirpation of these glands would have availed. The doctor spoke of two or three cases in which he used peroxide of hydrogen. I have at times felt somewhat disappointed in its use as being a disinfector of wounds. It cleans out pus temporarily but does not seem to render inert the bacilli which might be there. I remember one case in which I had to partially amputate three fingers. One of them became infected but I was able to protect the other from infection. I tried various substances with this finger. One day I swabbed the wound out with peroxide of hydrogen with no benefit. I then used a 1-2000 solution of bichloride of mercury and on my next visit found very little pus. As to the comparative value of peroxide of hydrogen and bichloride of mercury as germicides, I consider the bichloride a much more efficient agent.

DOCTOR WALKER: The paper is a very applicable one because it takes up a class of cases frequently passed over as a matter of insignificance, whereas the outcome of them is often very sad, and their early and proper treatment obviates contingencies that may arise. A number of points might be dilated upon in the paper and one of them is the use of peroxide of hydrogen. I probably commenced its use as early as any one, and I used it in all instances where pus existed. As DOCTOR HITCHCOCK says, I have never seen any benefit from its use. I have discarded it altogether. You can irrigate a wound from day to day and you will find the same quantity of pus present on each succeeding day. In many cases it acts as an irritant. I have gotten better satisfaction from the bichloride of mercury in its various strengths. The treatment of sprained joints by means of adhesive plaster was a very valuable introduction by DOCTOR GIBNEY, of New York. There is another point to be taken into consideration aside from the application of adhesive plaster. That is massage treatment. I think DOCTOR TIBBALS mentioned a case in which there had been a sprain of the wrist, and it is astonishing, when those cases are simply left to nature, the amount of rigidity that follows and the impossibility of obtaining any motion at that point. I think these cases should be treated carefully. Massage should be begun as soon as possible, not forcibly, but by gentle manipulation. In this way we will overcome the difficulty much more quickly than by adopting a waiting policy. In reference to abscesses. These glandular enlargements that occur in the neck and in the groin, if they are of a slowly developing character, are very persistent although they do sometimes disappear. The earlier we treat them and the sooner they are removed the better. When we have a chain of glands involved and the inflammation continues, we may be certain they are tubercular. Make a complete dissection when they exist on either side of the sterno-mastoid muscle, making an S-shaped incision, dissect back the integument and then divide the muscle, throw it back and make a careful dissection so that you can remove all the glands. I have operated in this way a number of times and have gotten good results.

DOCTOR DOUGLAS: Do you operate on adults or children?

DOCTOR WALKER: I operate on both. Frequently we meet with abscesses that are neither venereal nor tubercular, but are evidently started by floating bacilli in the economy, and having gotten a resting place an abscess develops. They should be opened up, cleaned out, washed with a bichloride solution, and dressed antiseptically. When treated in this manner a cure is effected.

DOCTOR DOUGLAS: I was forcibly impressed by the remarks of DOCTOR

WALKER in reference to enlargement of the glands of the neck. I would not take any exception to that plan of treatment in adults, but do take exception to it in children. It is very rarely that it is necessary to follow out that plan of procedure in order to remove these glands. True, they are tedious and slow, but in the general toning up of young children and improving their constitution by a certain line of treatment, I find very little difficulty in removing these glands without adopting operative measures. I certainly would not endorse this method of treatment in young children. As to the removal of glands in adults it is different. There is a tendency to malignancy in adults that does not obtain in children. Suppuration is obstinate and tedious but it is always amenable to cure, seldom if ever requiring the knife. You have some deformities left after the removal of these glands and you will also have them even after an operation. I may be accused of not operating soon enough but there is a possibility that some operate too early and too frequently. I have had considerable difficulty in the treatment of these old sinuses which follow the breaking down of suppurating glands and have treated them with bichloride solution. In the case of abscess of the groin I have recommended the wearing of a truss thus giving pressure and support to the part after thoroughly washing out the wound.

DOCTOR WALKER: I would not advise operations in these cases if they came under my observation early. It is only in old cases that I recommend operative procedure.

DOCTOR LONGYEAR: It has invariably been my custom when the glands become soft, before they appear so much inflamed as to cause the skin to assume discoloration, to incise them promptly and use a sharp currette, scraping out all diseased tissue possible, then swab them thoroughly with Churchill's tincture of iodine, and they always heal quickly and leave very little scar indeed. As to these glands being malignant, I do not believe they are unless secondary to a malignant growth. They are tubercular if they develop into any disease of that kind.

DOCTOR ROBBINS: I recall a remarkable case. I was asked to see a boy five years ago. He was eighteen years of age, was confined to the bed with high fever and looked as if he was going to die of tuberculosis. I could not detect anything abnormal in the chest. The family history elicited no history of tuberculosis. This boy had enlarged glands on both sides of the neck so that there was practically no neck at all. He is alive today and drives one of the delivery wagons for the Newcomb & Endicott Company. He still has a few glands on each side of the neck as large as an almond, loose and movable back and forth. Why these glands have not been absorbed is remarkable. DOCTOR McGRAW saw the patient but would not operate, and turned the case over to me.

DOCTOR TAPPEY: I think it is important to remove these glands when they become considerably enlarged, and I myself do not wait for suppuration. If I see that the gland is having a tendency to become large and to remain large, and looks as though it would suppurate and probably has suppurated in the middle of the gland, I prefer to enucleate it rather than allow it to break down. I recall, in this connection, one case that I consider very interesting indeed, and very instructive as showing how tuberculous disease may be disseminated from a tuberculous gland to other parts of the body. There was an enlargement of the glands in the groin and there was apparently no ostensible cause for it. The patient thought it was due to strain. The glands in the groin become troublesome and inflamed. I enucleated the gland but neglected to incise the fascia below it. The wound did not heal well at all and after several weeks I did what I should have done in the first place—removed the deeper glands thoroughly. In the course of time the bladder became irritable and upon examination per rectum I found that there was a thickening of the bladder walls and the case went from bad to worse. The walls of the bladder became thicker and the cavity of the bladder consequently smaller and smaller and after a while there was a rupture of the walls of the bladder into the rectum. Urine was passed by the rectum and the patient died. I am very certain the initial trouble was in the glands of the groin rather than in the bladder itself. I have under observation just now another case of what may be tuberculous or carcinomatous glands. I feel that nothing can be done in this case, the trouble being too far advanced.

Doctor Smith: One of the speakers said that in diseases of the different glands we hardly ever have malignancy unless it is secondary. I think that is not so with the glands of the mouth. In the parotid and sublingual glands, we very often have primary infection. I believe all enlarged glands whatever may be their cause, ought to be operated on. I think when we have to deal with sprains of the different joints I would hardly like to rely upon adhesive plaster when I had rupture of the ligaments, especially in the knee. I prefer plaster-of-Paris cast in these cases, putting the limb in position where it can be retained for a number of days and on removal of the cast giving massage treatment. I think it is unfortunate that we cannot divide these varicose ulcers into different divisions. Strapping, of course, in all ulcers, if you can get them early is the ideal treatment, but if you have an irritable varicose ulcer it seems to me that the only treatment would be excision.

Doctor Tibbals: I simply wish to take up a few points brought forward in the discussion. In regard to the question of removal of glands, I would like to say that I did not in my paper discuss the question of excision of the glands but rather incision of them. When fluctuation can be detected I spoke in favor of early incision. In regard to the use of peroxide of hydrogen I am still one of those who think they get benefit from it. I use peroxide of hydrogen and bichloride combined because that is my custom, but in the cases which I have reported I rightly or wrongly attributed the good effects more to the peroxide than to the bichloride. **Doctor Smith** misunderstood me. I do not apply adhesive plaster to the knee but to the ankle. When there are ruptured ligaments in the knee, adhesive plaster would be but a poor support. In that case I would use plaster cast. In regard to varicose ulcers it is unfortunate that varicose ulcer is a general term. We have various types, but by varicose ulcer I meant an ulcer of the leg, the primary cause of which is impaired circulation and a low vitality consequently of the tissues. It seems to me excision in this case would aggravate the trouble.

STATED MEETING, MAY 20, 1896.

The President, ERNEST T. TAPPEY, M. D., in the Chair.
Reported by WILLIS S. ANDERSON, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor F. D. Summers read a paper entitled "Pyosalpinx." (See page 405.)

Doctor Webber: This, as the essayist says, is a subject of very great importance, and one that a physician who has anything to do with the treatment of females meets unusually frequent in this day of our modern civilization. It is a condition that should be thoroughly understood by the surgeon and by the general practitioner. While we are interested with the details of special cases as given here tonight it strikes me that we should be more interested, if possible, in the prophylaxis of this trouble. Society, as it is constituted at the present time, makes very light of a great many questions that we men who are in the sere and yellow leaf look at more seriously than we did in our younger days. It is a fact that a large proportion of these cases of pyosalpinx are the result of gonorrheal infection. Gonorrhea, as **Doctor Walker** would tell us, is a disease which inflicts great distress upon the person who suffers from it and upon the poor woman who has it engrafted upon her as the result of an unfortunate marriage. I believe that if it were possible we should have a board of censors appointed in every community and that before a marriage certificate was issued the man's genitals should be examined and if any evidence were found of his having suffered from gonorrhea or syphilis that the marriage certificate should be denied. Our philanthropists and sociologists who are interested in trying to restrain our criminals have agreed that it would be a good thing if all those chronic criminals who are incarcerated in our penal institutions over two or three times should be castrated. We should commence before that. I believe DOCTOR LONGYEAR advocated, several years ago, in the State Medical Society, that there should be certain teachers in our schools—females for the girls and males for the boys to teach them certain things with regard to their sexual organs, the affections of the sexual organs, their use and abuse. I believe the duties of these teachers could be very materially increased and the boys and girls benefited by being taught the evils that follow these diseases. I believe it is the duty of every father and mother, to tell their children (as I have done with mine) of the evil effects of masturbation, and the dangers resulting from gonorrhea and syphilis, and in this way we can prevent much of the evil that follows from them. There is no doubt at all that every surgeon and those treating diseases of the female find that a large proportion of these cases come from infection from gonorrhea. A wicked husband comes home and gives the disease to his innocent wife. The poor woman has to suffer from an operation, possibly, that may result in death. There is one thing about these troubles, fortunately, and that is these long-continued cases of cellulitis, ovaritis, perimetritis, pelvic peritonitis, all practically the same thing, producing the same results, set up a toleration in the peritoneal cavity, which render the result of an operation perfectly safe. I have been astonished, when I opened the peritoneal cavity, to find a great mass of adhesions resulting from the inflammation, and with the comparative safety with which they can be removed. I have seen many cases which I thought would end in death make rapid recoveries. As soon as you remove the cause of irritation the patient springs immediately from disease into comparative health, and from a condition of emaciation, from being querulous, nervous individuals, they become even tempered and go away rejoicing. Because these cases are extremely common we are apt to forget the moral questions behind them, and I think it is a good thing to have our minds refreshed on this point. Very often I meet with young men, as I make my life insurance examinations, and in asking them with what particular diseases they have been afflicted during life they say—"Oh, I have had an attack of clap," as if it were an extremely common thing, and entitled to very little attention.

DOCTOR CARSTENS: I perfectly agree with the paper, and must congratulate the doctor on the success he has had with the case to which he refers. The question as to the nature and general causes of the trouble I think is so thoroughly settled now that there is really no more dispute about the necessity as to the plan of treatment required. The point he touches upon about pus not being able to get out through the uterus is, I think, extreme, notwithstanding my friend PRICE. I think cases involving this condition can be cured. As a rule, when the tube becomes closed and cannot empty into the uterus the contents may discharge into the rectum and drainage be effected in that way. Some women will outlive twenty or thirty attacks and eventually entirely recover, while others, such as we meet with in cases of appendicitis, will die with the first attack, and such women are never safe unless the tubes are removed. The why and the wherefore is still in dispute. Some who are abdominal surgeons advocate opening the abdomen, while others advocate the French method for removal of the tubes, namely, by vaginal hysterectomy. I have had cases of pus tubes demanding an operation in which it was utterly impossible to remove them in any other way than by abdominal hysterectomy; also in which removal of the tubes and ovaries did not cure the patient, especially when the inflammation was of long standing. You often have inflammation of the uterus and appendages from which women suffer extremely, and in many cases it is often advisable to remove the uterus by the French method of vaginal hysterectomy. As far as the point made by DOCTOR WEBBER is concerned, as a general rule I agree with him that these things should be prevented. I also believe that something can be done by teaching pupils in the schools as to the use and abuse of their sexual organs. It is a good idea to make them understand the dangers of gonorrheal infection. In Germany the laity considers that it purifies the blood. I do not know that they teach that now. I think they ought to prevent persons from getting gonorrhea. We should control houses of prostitution and stop street walkers. The evil effects of the disease have been taught and expounded since the days of **Confucius**, of **Bhudda**, and of **Bramahpootra** but still some persons risk it. As far as infection itself is concerned, all cases do not come from gonorrhea. Twenty-five per cent. are due to this cause, fifty per. cent to puerperal infection, and twenty odd to other causes—tuberculosis, syphilitic infection, et cetera. If you eliminate gonorrhea entirely from this question there would be plenty of women still who have pus tubes, so that you have to go a little further than **Doctor Webber** would to obliterate this disease. Prominent operators say that the casual factor is gonorrhea, but I have shown in my own experience that there were other kinds of cocci present besides the gonococci, for instance the streptococcus and staphylococcus. Where is the trouble? why do these women have pus tubes? The micrococci do not jump into the tubes at once. They start in the vulva, in the vagina, and gradually travel up into the uterus, thence into the tubes. This process is not often completed in a day. It generally takes weeks, sometimes months, and even years for the infecting agent to advance from the vagina into the tube.

Doctor Douglas: Why does it take them so long to reach the uterus?

Doctor Carstens: They become lodged in the folds of the mucous membrane of the vagina or of the uterus. When located there, they should be destroyed before migrating into the tubes, not with a weak solution of sulphate of zinc, or a two per cent. carbolic wash. These have no effect on the gonococcus. They are practically worthless. Nor is bichloride very efficient. It does not reach the folds or rugæ of the uterus. Gonorrhea in the female is not treated properly. The vagina should be thoroughly cleansed and swabbed. If the uterus is the seat of infection that organ must be attacked vigorously. It should be curetted and washed out. You cannot prevent infection except by absolute asepsis.

Doctor Douglas: The women will not tolerate such treatment.

Doctor Carstens: Yes they will; otherwise they assume the responsibility. You must insist.

Doctor Douglas: I would like, Mr. President, to have you ask the doctor to explain the large proportion of cases arising from puerperal infection.

Doctor Carstens: The majority of cases of puerperal fever are caused by miscarriage. A woman becomes pregnant. She objects to assuming the duties of motherhood and consequently determines to destroy the child. She never consults a doctor, but instead employs a dirty darning needle, and inserts it into the uterus until her object is accomplished. Miscarriages cause more cases of pyosalpinx than gonorrheal infection or anything else.

Doctor Longyear: There are only two or three points that I will touch upon. First, in regard to the etiology. I must certainly take issue with the essayist in regard to traumatism being a cause for pus tubes. I do not believe that a simple injury to the tubes will cause this affection. You must have infection before you can get pus. I believe from my own experience that pus tubes come from only two causes: the first is gonorrheal infection; the second is tuberculosis. I never found a pus tube in a virgin that was not tubercular, and I doubt if anybody else has. It is true you do find other cocci besides gonococci, and sometimes you will find absolutely none. The pus will be perfectly sterile. The explanation of this is that the gonococcus dies but the result of the infection remains. **Doctor Carstens** has brought up this question of puerperal infection, a point on which I have always taken issue with him. Puerperal infection does not mean that it is *not* gonorrheal infection. A woman may have gonococci in her vagina before the birth of her child or before miscarriage, or gonorrhea may cause the miscarriage. Those cases come in that class which **Doctor Carstens** states as about fifty per cent. I do not believe that the streptococci get up there very often without having the secretions changed by some other process, and there is no process so liable to cause that change as gonorrhea. I believe you have the gonococci first and the streptococci come afterward, and you have a mixed infection. Doctor Webber, in quoting me regarding the teaching of our youth in schools, cited a little more than I ever said. I did advocate the teaching of the boys but not of the girls. I believe if we teach our boys early—before they get into trouble—we will save many of them. They get the disease through ignorance, but if they have a true knowledge of its effects it will save a great many of them, and consequently a great many women. I believe that, barring out the results of syphilis by transmission, gonorrhea produces a great deal more trouble than does syphilis. In regard to the operations being so very harmless, I believe that those which are done for pus tubes as a result of gonorrhea are almost devoid of fatal results. The most fatal are those in which you have a mixed infection. When the pus tubes are large and the case presents all the symptoms of a severe septic infection I think operation is very dangerous, but it must be done, and these are the ones in which to perform the French method, removing the uterus and adnexa per vaginam, which permits the best drainage afterward.

Doctor Walker: How would you determine this mixed infection?

Doctor Longyear: By the symptoms. You have constant fever, emaciation, chills, soreness over the pelvic region, with great tenderness. As Doctor Webber fittingly expressed it, "a thorn in the flesh." I do not think that the immediate danger to life from discharge of gonorrheal pus into the abdominal cavity is great because it does not produce such very rapid action in the peritoneum, and is usually walled off by adhesions which prevent the general infection of the cavity. This is a very interesting subject, and we might talk upon it all night, but I think the salient points have been touched upon in the discussion.

Doctor Metcalf: As to the etiology of these conditions I am inclined to agree in a measure with Doctor Carstens. I think I have seen many of these septic cases arising at the time of miscarriage in which I could not get any evidence of gonorrheal infection. This is a question often difficult to determine. I have seen cases arising from septic infection of the endometrium. As to the preventive treatment referred to by Doctor Webber, I will go still further and say that all the boys and many of the girls should be circumcised, and instead of preaching to them remove all the irritations of the sexual system, thus quelling perpetual suggestion. Upon the methods of operation referred to in the paper I would like to speak for a moment. Doctor Longyear refers to the French method, that is, by vaginal hysterectomy. Pathologists tell us that it is difficult, if not impossible, to destroy the gonococcus when once at work in the endometrium, and many cases therefore can be satisfactorily treated only by hysterectomy. Let us consider for a moment the method of removal of the tubes by abdominal section. In many cases they can be removed without ligating the tissue *en masse*, thus lessening the danger to suppuration from disturbed circulation in the parts ligated. In many of these cases when the patient is in the Trendelenberg position the tube and the ovary can be dissected separately from their peritoneal attachments and the edges of the peritoneum coapted by a continuous suture of catgut. Two years ago I said that the vaginal method by dissection, which is less painful and much less dangerous than the method by clamp or ligature, is applicable where the uterus is movable. I now hold that this method is applicable in all cases except where there is great subinvolution immediately following confinement, or large tumors of the uterus, or ovarian tumors with adhesions. In many of these cases an inflammatory wall will be found separating the pelvic from the abdominal cavity and this need not be broken up. American surgeons have not reported the subsequent condition of these cases so far as I know. Landau reports seventy per cent. and Shauta eighty per cent. of cures.

Doctor Walker: I rise with timidity. The discussion of this subject has brought out its cause. I firmly believe that many cases of pyosalpinx do not originate from gonorrhea, but again I believe that many cases do. I did not hear all that was said in reference to the treatment of gonorrhea, but we are progressive and I believe we are living in an age in which the disease can be cured. The great difficulty in curing gonorrhea is the imperfectness of treatment. We tell patients to take certain balsams which undergo a change in the system, get into the urine, effect their exit through the bladder, and certainly do a great deal of good. We advise them to use a syringe but they will not follow out our directions. An antiseptic wash does not destroy the gonococci because it does not reach them in many cases. Recently I have been pursuing a new plan of treatment. We can irrigate the urethra in the same way that we irrigate other channels, and there is no reason why we should not cure a urethritis if the method is followed properly. You ask me how I do it. I have demonstrated before doctors and students that it is impossible to inject water into the bladder even with a horse syringe and with the patient anesthetized, and yet a simple contrivance will enable one to do that satisfactorily. It is to take a rubber bag holding one or two quarts, hang it up on the wall, put in a solution of 1–10,000 or 1–20,000 bichloride or other antiseptic and attach a blunt injection nozzle to the tube coming from the rubber bag. I sit before the individual and now introduce the little nozzle into the urethra, addressing the patient and asking him to take a long inspiration, when the solution will flow in and return thoroughly cleansing the channel. You ask me if I do not, by this method, drive the gonococci into the bladder and thereby produce a cystitis. Rarely does this occur. It only takes two or three minutes to inject a pint of solution into the bladder and let it flow out again. You will be surprised to see with what rapidity you effect a cure. One word with reference to phimosis. This tendency to mutilate individuals is going too far. The Lord made the prepuce for a purpose, and we should not circumcise simply to prevent it rubbing forward and backward and producing sexual desire. We were born with this condition. In certain cases it is undoubtedly proper to remove it, but the idea of cutting it off for the purpose of allaying sexual excitement is entirely wrong.

Doctor Metcalf: We are not climbing trees now. When we were we needed the prepuce for protection from the rough bark, but we have evoluted beyond this need. If the glans is less sensitive we will have less chancroid. I did not mean to say that we would get benefit when no irritation existed, but in the majority of cases in which there is irritation by accumulated smegma and preputial adhesions there will be perpetual suggestion and resulting sexual excitement, and it is better to remove the cause of this in all cases.

Doctor Douglas: I have been very much amused by the specialists. We have had so much that is scientific that I do not wish to add anything that is unscientific. I was highly impressed with the paper, notwithstanding we have been surfeited with contributions of this nature for the past year or two. I was greatly surprised to hear so much that is new brought out on the subject this evening, and positively astonished with the remarks of Doctor Carstens as to the percentage of cases of pyosalpinx produced by other causes than gonorrhea. In asking him to delineate more fully it was my desire to have an explanation of exactly how infection in the various ways occurred. I was surprised at the difference between his and Doctor Longyear's etiology. I myself have seen cases of this disease occurring in young girls—too young to be caused by gonorrheal infection. I had hoped to hear them touch not upon the operative cases, but the cases of salpingitis which do not result in pus formation. These are perhaps as interesting to the general practitioner as those in which there is formation of pus. The line of symptoms described by Doctor Longyear is very striking indeed. I have been struck at times very forcibly with the continued repetition of similar febrile changes so simulating typhoid affections that I could not but be interested with the remarks of the specialists.

Doctor Tappey: The remarks of Doctors Webber and Walker remind me of the case of a young fellow who came into my office a short time ago with his first attack of gonorrhea, and after I had treated him a few days he remarked that he thought he would not need to come to see me again as he considered himself well, having heard the matter explained in the class at the high school.

Doctor Bonning: I wish to take exception to the statement of Doctor Carstens that in the German colleges gonorrhea was taught to be a good thing for man to contract. I think the source from which he had this information was not very reliable. I should like to report a case of pyosalpinx which brings up the question, Is it desirable to operate in every case? About twelve years ago a woman came to my office suffering from this condition. I had a gynecologist see her with me in consultation and he advised an operation, but she objected for the reason that she had been married two years and had not borne any children, and if an operation was performed it would prevent her becoming pregnant. She would not consent to an operation, but to the surprise of myself and the gynecologist who had made the examination the woman gave birth to a child ten years afterward.

Doctor Parker: I believe that Doctor Metcalf's idea of removing all sorts of irritations from the glans penis is a very wise precaution. It is not so much lessening the desire for sexual excitement as lessening the perversion of the sexual appetite.

Doctor Summers: In his remarks, Doctor Longyear said that all cases of pyosalpinx come either from gonorrhea or tubercular infection. I am not so sure about that. These cases that I have referred to, and which I operated on at Saint Mary's Hospital, gave no history of gonorrhea or tuberculosis. The only information I gleaned regarding the history of one case was that the patient had a septic wound due to a lacerated perineum at the time of her confinement.

PATHOLOGICAL SPECIMENS.

Doctor F. W. Robbins presented a vermiform appendix, and rendered the following report:

Miss R., aged nineteen years; telephone operator; previously in good health; family history good. On October 2, she attended a dance and within thirty-six hours thereafter had distressing pain in her right side, especially severe over McBurney's point. The temperature rose as high as 103½°. The muscles were rigid with intense swelling over the entire abdomen. A tumor could be felt in the region of the appendix. During this time she was treated by Doctor O'Dwyer. She gradually recovered fairly good health and resumed her work somewhat irregularly about November 1 and kept at it until about December 25, when her attacks of pain were very severe. Frequently these attacks would last from 5 to 9 A. M., being so violent that large doses of morphine would not relieve. The paroxysms of pain were not accompanied by any fever and only slight rise of pulse.

Doctor O'Dwyer called me to see the patient on January 3. I thought I could feel an inflammatory mass deep down in the pelvis, and agreed with the doctor that it was best to operate, which I did this morning. After separating with much difficulty the inflammatory adhesions from the center of the mass I finally obtained this beautiful specimen. After wiping out the cavity and completing the usual toilet the patient was placed in bed and at 6 o'clock met me with a smile. She has no pain, the temperature is normal, the pulse 90, and she feels good.

DETROIT ACADEMY OF MEDICINE.

STATED MEETING, MARCH 24, 1896.

The President, W. R. CHITTICK, M. D., in the Chair.
Reported by C. W. HITCHCOCK, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor E. H. Sargent read a paper entitled "Variola." (See page 410).

Doctor George B. Russel: The use of the bovine virus, which is so much insisted on now, often occasions delays, to which we were not subject in early days when we kept on hand constantly a supply of humanized virus, using the scabs from the vaccinations of healthy patients. In 1837, one afternoon, I was called to Connor's Creek to vaccinate the Indians. It was in the Indian Summer. I answered the summons promptly, and before night of the next day I had vaccinated seven hundred, of all ages. Small-pox is, of course, contagious, but I think we need not dread it as some do. I do not think I ever carried the disease in my clothing from one patient to another. I recall one patient, who died in her second attack of small-pox, some years after the first. My memory of experience runs back sixty-three years, and then every one was vaccinated. In December, 1834, I was a student in Philadelphia, and helped carry a subject across the dissecting-room, which was soon after discovered to have died of small-pox. As a result of this exposure, four students died, and ninety had the disease, I among them. In the early days, vaccination was so thorough, so common, and so rigidly insisted on that I never had a second case in the same family. In all my vaccination experience, I never saw any other disease inoculated.

Doctor Inglis: For a great many years I have invariably used, and probably always shall use, bovine virus. I cannot think humanized virus without its dangers.

Doctor Biddle: My interest in the paper lies chiefly along the line of differential diagnosis between small-pox and other cutaneous diseases. I have seen arms that were protected by true vaccination and other arms not protected by a spurious vaccination. True vaccination leaves a scar, which indicates that the different stages of vesication, pustulation, umbilication, et cetera, have been experienced. An epidemic of varicella at the Children's Hospital brought out some interesting features as to differential diagnosis. In one case the pustular eruption lasted two or three weeks. A recent case is interesting, in which a nursing child contracted varicella. I should like to ask the limit of liability (as to time) of patients to transmit the contagion.

Doctor Sargent: No one can tell exactly. The only safety lies in isolating until all traces are gone.

Doctor Manton: I know nothing of small-pox, but I do know something about vaccination. Twelve or fourteen years ago, at one of the stations in London, I took a course in vaccination and became one of the public vaccinators of London. I never saw a case of transmission of other disease in vaccination. Healthy human vaccine may be as good as bovine but I think the latter the better for general use.

Doctor Robbins: I was much interested in a report of the vaccination of the employes of the Michigan Central Railroad Company, a few years ago. Over in Canada, some four or five men were vaccinated who had previously had small-pox, and the vaccination took thoroughly.

Doctor Sargent: One point has not been touched upon—the theory that in cases of questionable diagnosis, if the patient be over thirty, the probability is that the disease is small-pox and not varicella. This theory, it seems to me, and according to my experience, would hardly be a safe rule to follow, though varicella in adults does become more severe than in children.

STATED MEETING, APRIL 28, 1896.

The President, W. R. CHITTICK, M. D., in the Chair.
Reported by C. W. HITCHCOCK, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor H. D. Jenks read a paper upon "The Summer Diarrhea of Infants." (See page 401.)

Doctor Bigg: The subject is a very important one. I was pleased to hear the doctor's reference to cholera infantum. We so often find patients whom some doctor has carried through remarkably severe attacks of "cholera infantum." While feeding has done much for us, these cases are still far too frequent during our heated term. I find little or nothing in the paper from which to differ. In treatment, medication is so often overdone that a rational use of dietetic measures must be welcome, I have made it a matter of conscience to warn mothers against the bottles with "hose" attachment. Judicious doses of bismuth and salol have been my chief reliance, so far as drugs are concerned, in the treatment of these troubles, first giving mercurial chalk. Hot water I feel to be better than any milk preparation in these (irritative) cases. External use of cold water, especially along the spine, is of material advantage, thus stimulating the sympathetic.

DOCTOR WINTER: A timely subject, though these troubles are not so frequent as in the past. Most mothers have come to know that some preparation of milk must be had to guard against these troubles. Castor oil is of material advantage until the alimentary tract is well cleaned of irritating matters. I have had most satisfaction from two-grain doses of salicylate of bismuth. With salol I have had no experience. Feeding of milk is often best suspended and barley water substituted.

DOCTOR CREE: DOCTOR BIGG has voiced my sentiments. I give a mercurial until the bowels move freely and then I give freely of bismuth and salol—five to ten grains of bismuth and one to three grains of salol—withholding milk for twenty-four hours.

DOCTOR SPRAGUE: I liked the doctor's paper, except as to the artificial foods. I like "malted milk" and have had happy results from its use in cases of maldigestion. From maltine and cod-liver oil, too, in ill-nourished cases, I have had great satisfaction. The maltine I believe a better food than sugar of milk and the cod-liver oil seems to be the fat most easily assimilated. Of the use of hot water I heartily approve. Large enemata of hot water are very useful. We need some antiseptic and I especially like salol both for infants and adults. I once had irritating effects from the administration of salicylate of bismuth.

DOCTOR CONNOR: As the thermometer rises, so does the death-roll, among infants, just as the adult death-roll increases with the lowering of the thermometer. We are enjoined to keep the infant cool in air, surroundings, et cetera, and in a measure this becomes a problem of mathematics. The stimulating effect of a cooler temperature and purer air I have seen strikingly illustrated in my own family; thus Belle Isle is of incalculable value to the city. Prior to the large sewers being put through the eastern and western portions of the city, these cases were vastly more common in those parts of the city. The inference is plain. Surface pumps and out-closets have been done away with, too, and sources of such diseases thus cut off. Hygienic difficulties are many, of course. Eye and ear troubles are greatly lessened by careful hygiene.

DOCTOR EMERSON: I congratulate the doctor on the very sensible paper. I think if we observe the simple changes of food, as advised, we shall do well. Excessive medication must be guarded against. Hot water is useful, but pure cold water, to quench thirst, is valuable as a prophylactic. The value of filters is great. The difference in taste and appearance is readily apparent and I deem it a matter of great importance. As to medication, we must sometimes "bow the knee to Baal" and give something to satisfy the popular superstition. The superstition as to the "weakening effect" of bathing is truly amusing. On these matters the public needs enlightenment.

DOCTOR CHITTICK: I think the matter of milk the most important. I carefully enquire as to the residence of milkmen, surroundings, methods, et cetera. Essence of pancreas is often helpful. Ten to fifteen grains of "pink powder" (a one per cent. trituration of the red iodide of mercury) in one-ounce glass of water, a teaspoonful every one-half to two hours, is a valuable intestinal antiseptic.

DOCTOR JENKS: I purposely omitted cholera infantum. The long-tubed nursing bottles, I take it for granted, are not used by anyone now. The "top-milk" we regularly advised patients to use for the cream in making up their formulæ for feeding. As to "malted milk," it is too expensive to advise for regular consumption in poor families. I thank you all for your kindly reception of the paper.

CLINICS.

CHILDREN'S FREE HOSPITAL.

AFFECTIONS OF THE BONES AND JOINTS.

SERVICE OF J. K. GAILEY, M. D., DETROIT, MICHIGAN.
PROFESSOR OF CLINICAL SURGERY IN THE DETROIT COLLEGE OF MEDICINE; SURGEON TO HARPER HOSPITAL, AND TO THE CHILDREN'S FREE HOSPITAL; VISITING PHYSICIAN TO THE HOME OF THE FRIENDLESS.
REPORTED BY P. C. McEWEN, M. D.
HOUSE PHYSICIAN AT THE CHILDREN'S FREE HOSPITAL.

It has been a matter of observation for the past few years that among the many surgical cases admitted to the hospital none occur more frequently than affections of the bones. As to the etiological factors productive of this disease much is left in doubt on account of the insufficient history obtainable from the parents or guardians of children when admitted. SENN ("Principles of Surgery," 1890) says that tuberculosis of the bones is an exceedingly frequent disease in children and young adults. Its favorite location is in the epiphyseal extremities of the long bones, although it is also met with in the short bones of the carpus and tarsus. MUELLER attributes this to the fact that when the bacilli of tuberculosis are present in the blood current very often localization takes place near the epiphyseal cartilage in young persons by the microbes becoming arrested in one of the terminal branches of an artery, the lumen of which becomes obliterated by the presence of a minute embolus of granulation tissue containing bacilli. Usually there is a history of injury or of exposure to cold and wet of some specific fever, generally measles, but in the vast majority it is rarely possible to trace a direct connection. The influence of traumatism as a factor in the causation of tuberculosis of bone has been greatly exaggerated but that it frequently acts as an exciting cause cannot be doubted. The cases herewith reported were drawn entirely from the poorer class of people of the city who suffer from exposure and lack of the proper elements of nutrition, predisposing their offspring to tubercular disease.

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CASE I.—J. R., aged ten years, of German parentage, when admitted to the hospital gave a history of having suffered for two months with severe pain in the right knee which was very much swollen at the time. Had previously been treated by the family physician who sought to relieve tension by making two or three incisions down through the tissues. This afforded no relief and the patient was sent into the hospital. On examination it was found that the knee-joint was badly necrosed and that the disease extended upward involving fully six inches of the femur. It was apparent in this case that any treatment short of amputation would be useless and only tend to increase the progress of the disease, and the parents were so advised but they were opposed to an operation. Palliative treatment in the nature of antiseptic dressings were applied after the affected joint had been thoroughly washed out with a bichloride solution but without affording any relief. The positive danger to life from absorption of septic material and exhaustion being explained to the parents they consented to an operation, and ten days after the child's admission the leg was amputated at the upper third of the femur. The stump healed up rapidly and three weeks afterward the dressings were removed and the child permitted to move about with the aid of crutches; but unfortunately just at this time, when everything pointed to a speedy recovery, a new focus of infection manifested itself, this time in the right elbow, the germ probably having been conveyed by metastasis from the previously affected knee, or an infection similar to the first. The first signs of trouble in the elbow were swelling in the region of the joint, intense pain, and inability to use the arm. Two parallel incisions were made through the tissues and periosteum and a silver wire placed *in situ* to afford drainage to a small quantity of pus which was found in the neighborhood of the joint. A few stitches were taken to hold the edges of the wound in position and a bichloride dressing applied. This did not stay the progress of the disease and a resection of the elbow-joint was performed. An incision was made about three inches long parallel with the axis of the arm, cutting down through the tissues and the periosteum raised exposing the bone. The muscular attachments were separated and the bone pushed out through the incision, and the diseased portion resected. The wound was then thoroughly irrigated and all infected tissues carefully dissected away, the incision closed and the arm dressed in the straight position. The case made an excellent recovery, the boy having splendid motion in the elbow-joint and is now a cheerful little newsboy on the streets of the city.

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CASE II.—W. R., aged five years, came to the hospital giving a history of having met with an accident nine months before admission. He first complained of pain in the left hip and knee, which was followed by a limping gait caused by the rigidity of the muscles and the endeavor on the part of the child to protect the joint as far as possible. When first seen in the hospital the child gave every evidence of hip-joint disease—the gluteo-femoral crease being well marked, flexion of the thigh upon the abdomen and of the leg upon the thigh, pain on grasping both illiac crests and pressing inwards, and when the lower limbs were brought into the same straight line with the trunk there appeared the characteristic tilting forward of the pelvis, and impaired mobility and atrophy of the muscles of the leg. The prognosis seemed hopeful. The joint was immobilized with a Sayre's splint and the child sent to the Lakeside Home at Grosse Pointe in the hope that purity of atmosphere and plenty of sunshine might result in restraining the evil effects of the disease, but this did not succeed in checking its progress. Finally suppuration made its appearance about the joint and manipulation revealed a distinct grating sound between the head of the femur and the cavity of the acetabulum indicating a destruction of the articulation, and as it was impossible to save the joint we proceeded to excise. I made a curved incision, commencing directly over the neck of the femur and the greater trochanter, cutting directly down to the bone, dissecting back the periosteum, and with a small saw cut through the neck of the femur and removed the head of the bone with forceps. The usual antiseptic dressings were applied and the child then placed in bed with extension applied by means of a weight attached to the leg. Then after the patient is kept in bed about two weeks he is placed in a Sayre's splint and allowed to go about on crutches with an elevated shoe on the sound foot. In the course of three months he was able to walk about with the aid of a cane with the diseased limb elevated about two inches, due to the shortening produced as a result of the disease. At the end of that time he was discharged cured.

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CASE III.—E. F., aged six years, gives a history of having caught her foot in a sidewalk when three years old. About one year after this injury a small piece of bone came through the upper part of the foot but the part remained swollen and continued to give a great deal of pain. She was brought into the hospital and a straight incision made on the inner side of the ankle and the bones thoroughly scraped with a sharp curette until healthy bone was reached, after which the wound was irrigated with a 1-2000 bichloride solution and the usual antiseptic dressings applied. The patient was sent home and at last report there has been no recurrence of the trouble.

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CASE IV.—P. J., aged eighteen months, admitted to the hospital with a small wound on the outer side of the ankle of the right foot. A free incision was made and the bones thoroughly scraped, all diseased tissues cut away, the edges of the wound approximated and dressed antiseptically and the patient discharged. The child is living in the city and is under observation but there has been no renewal of the trouble.

CASE V.—T. D., aged nine years. This boy had scarlet fever about a year and a half ago, and about four months afterward a small sore developed on the inner side of the ankle-joint from which pus discharged. The wound was allowed to run along without any treatment and voluntarily closed only to break out again at the same point. This continued for nine months when he was brought to the hospital, the wound being open at this time. A probe was inserted into the wound and it was found that the bone was extensively diseased. An incision was made in the soft tissues on the inner side of the foot, the edges drawn aside with retractors exposing the periosteum which was destroyed opposite the suppurating focus. The periosteum was raised with an elevator back from the diseased portion and it was observed that the bone was marked here and there with small furrows as if an insect had burrowed under the periosteum. The internal maleolus was found very much destroyed and with a sharp spoon curette considerable cheesy matter was scraped out. The hammer and chisel were then used and the whole of the diseased portion removed, the chisel being carried up the shaft of the tibia for about three inches, the wound packed with iodoform gauze and the child placed in bed. It is hoped by this means to confine the disease to the point of original infection.

I think it is the general experience of the profession that the majority of the cases of diseased bones in infancy and young adult life, even after they have reached the suppurative stage, if thoroughly scraped out and the nutrition of the child carefully looked after, get well without any return of the trouble. DOCTOR WATSON CHEYNE, in *The Lancet* for November, 1890, says "Tuberculosis in man is essentially a local disease. In the struggle between the tissues of the human body and the tubercular virus, the opposing forces are pretty well matched, and victory does not always rest with the bacillus." It is no doubt true that many cases recover without any operative interference whatever; in other words, that rest—surgical rest—will limit the bacillus to the focus of primary irritation and it will die without further dissemination. In all probability the determination of the bacilli to the joint, as to the lung, is possibly brought about by traumatism or irritation, however slight, and if these cases are seen sufficiently early and the joint rendered immovable the bacillus would be confined to the point of invasion and deprived of its power of doing harm.

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In addition to the cases above cited I wish to present two cases of genu varum selected from among others which came under observation at the hospital. This condition usually manifests itself in early childhood and when so observed evidences a rachitic tendency. Left to itself and when not severe it often spontaneously improves as the rachitic state passes away and the general strength improves.

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CASE I.—R. C., aged three years. You will observe by reference to Figure I the bowed condition of the legs. Chloroform was administered and a small incision made in the tissues down to the periosteum which was separated away from the bone at a point of the greatest curve of the tibia, which in this case was at the upper third, an Adams' saw introduced on the flat surface, turned a quarter of a circle and the bone sawed through almost the entire distance, after which it was grasped above and below the point of section and forcibly broken. The fibula was not cut, but forcibly bent. It was then straightened out, the wound hermetically sealed with iodoform collodion and a plaster cast applied. This was allowed to remain on for a month and then removed, the result of treatment being apparent in Figure II.

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CASE II.—J. B., aged six years, was admitted to the hospital with congenital bow legs. (See Figure III.) In this case only one leg was affected and both general and local treatment had been tried without any improvement. I operated on this case in precisely the same manner as the previous one with the same satisfactory result. (See Figure IV.)

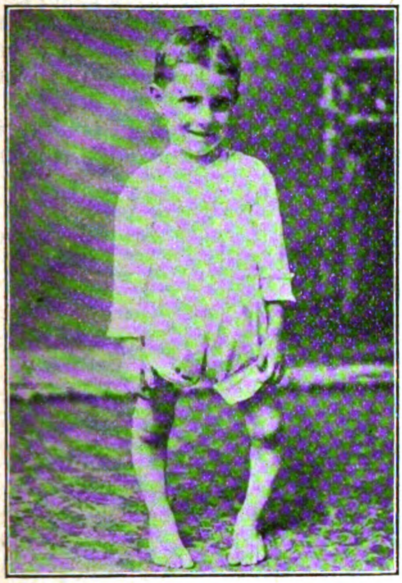

FIGURE I.

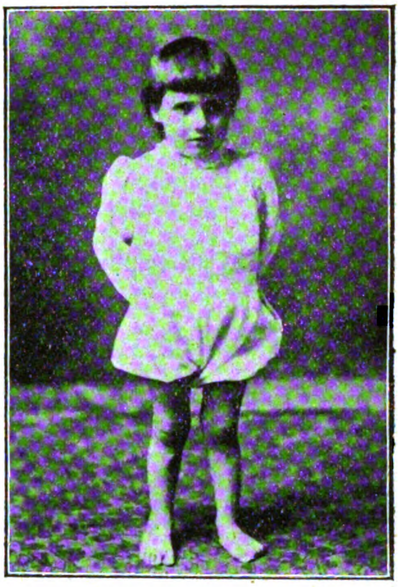

FIGURE II.

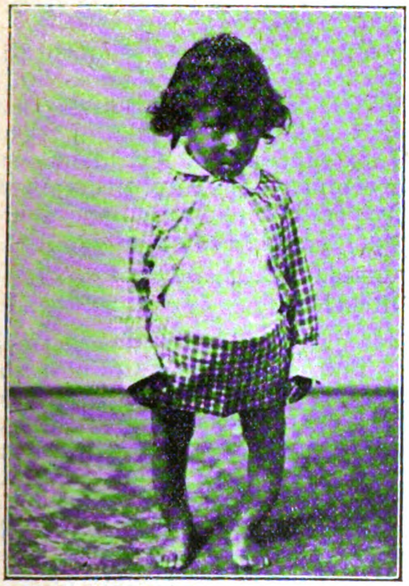

FIGURE III.

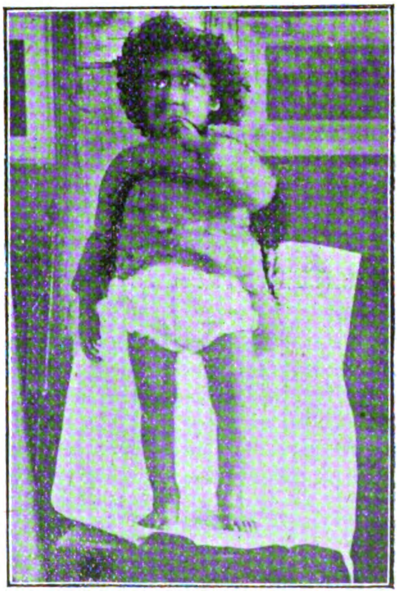

FIGURE IV.

EDITORIAL ARTICLES.

SEA WATER FOR INLAND CITIES.

THE enterprise which has just been undertaken, that of supplying the city of London with sea water, is one which if successful is likely to meet with more general adoption. Hitherto the water supply of cities has been provided solely with a view to its use for potable and domestic purposes. Modern sanitary administration requires water for flushing and sewage purposes quite as much as for other uses. If sea water once be brought to our large towns there is no good reason why it should not prove an indispensable adjunct to our sanitary departments. There are many excellent reasons why the sea should be the very best place for the disposal of sewage. There are many objections to the same water being used for flushing and drinking purposes. Then, again, sea water would be an excellent vehicle for the conveyance of sewage. Its density would make its carrying power greater, and as it possesses slight disinfectant properties it would add to the healthiness and cleanliness of cities.

The development of the novel experiment will be watched with interest as it may lead ultimately to a double water supply for large cities, sea water for sewerage cleansing and other purposes, and fresh water for drinking.

ANNOTATIONS.

APHASIA IN POLYGLOTS.

THE fact that certain aphasics may have some capacity for speaking in different languages has led some to think that different centres were occupied in different forms of linguistic expression. M. PETRES, in a recent number of the *Revue de Medecine*, shows that in these patients the last acquired language was always first lost. The patient who may be able to speak in one language when he has lost capacity for speaking in another is merely an illustration of the fact that qualities and capabilities which are last acquired are liable to be most easily impaired.

A NEW TREATMENT FOR DIABETES.

THE application of electricity in diabetes is a therapeutic innovation that has been fraught with gratifying experience in the practice of M. D'ARSONVAL, of Paris. In one case treated for six weeks by the high-frequency current of TESLA the quantity of urine and sugar were reduced from twenty-four pints and twenty ounces a day respectively to twelve pints and six ounces. The excellent result obtained by our French confrere will surely recommend the electrotherapeutic method of dealing with this disease, and may possibly mark the inception of more favorable prognosis in a hitherto discouraging condition.

PROFESSIONAL MORTALITY.

ARTERIOSCLEROSIS is accredited with being a frequent occasion of death among physicians. In discoursing upon this subject, DOCTOR KORTRIGHT admonishes the profession to heed the instructive object lesson afforded by deceased colleagues, and advises that the medical career be regulated to conform with physical capacity. The advent of increasing arterial tension, the tortuosity of the temporal artery, the rigidity of the radial artery, and an augmentation in the quantity of limpid urine should be regarded as indications of approaching senility, notwithstanding the age, which demand a restraint of exertion. Numerous procedures for catering to this condition are suggested. The fire of ambition should be suppressed to a degree commensurate with a small practice, from which confinement cases must be eliminated; abandon midnight visits and reduce expenses to a minimum; prolong the period of sleep, partake abstemiously of food, and refrain from drinking at all; dispose of the horse and indulge in a great deal of moderate outdoor exercise and a long vacation in summer; watch the functions of the skin, and avoid the onset of a chill. In the meantime aim to cultivate an even disposition and observe quietude. The writer is probably exacting considerations which the average physician of the present day will not manifest a readiness to grant, and consequently arteriosclerosis is likely to continue an important factor in the causation of mortality among followers of the healing art until the counterpart of a certain lay species is evolved in the new Aesculapian.

CONTEMPORARY.

ORIGIN OF MALPRACTICE SUITS.

[THE CHARLOTTE MEDICAL JOURNAL.]

WE are glad to see a much more friendly feeling among physicians than formerly. Malpractice suits would rarely, if ever, be heard of if physicians all exercised proper professional courtesy. Unfortunately worthy physicians have suffered much worry and expense at the hands of pettifoggers, instigated by traitors calling themselves doctors. Even a vindication in court is dearly bought. We know of a certain county in Ohio where eleven malpractice suits have been brought against physicians within the professional lives of men now living, every one of which has been instigated by a contemptible cur calling himself a physician.

When the golden rule becomes a part of every physician's code of ethics there will be no more malpractice suits. We have known a number of threatened suits which never materialized because they were discouraged by physicians. It was our privilege to abort one of these suits recently against a homeopathic physician.

The love of money is the root of this evil, and if a physician is known to be possessed of it he is marked for a victim. The remedy is easy. By putting all his property, personal or real, in his wife's name (every physician ought to have a wife) he is safe.

As we said, we are glad to see a marked improvement in professional morals among physicians. Medical societies are a powerful factor in promoting professional friendship. Many of our medical societies now hold annual banquets to promote friendly social relations among their members and their families. We would like to see this plan adopted by all medical societies. Their value to the profession at large, and to the individual physician cannot be overestimated.

MEDICAL NEWS.

MEDICAL ETHICS.

AN International Congress of Deontology and Medical Legislation is proposed by a Belgian medical journal. It will essay "to lay down the foundation rules of a code of honor, which shall serve as a guide to all practitioners in the multiple contingencies appertaining to a medical career; the relations that should obtain between neighbors, between strangers, between general practitioners and specialists, between the rank and file of the profession and the staffs of hospitals, between physicians and surgeons, consultants and family attendants, beginners and veterans, men practicing in watering-places and those sending patients to undergo the cure, et cetera."

SPECIAL REGULATIONS FOR THE SECOND PANAMERICAN MEDICAL CONGRESS.

Enrollment.—In order to be properly enrolled, each member of the congress will pay to the treasurer thereof in the City of Mexico, the sum of five dollars gold.

General Sessions.—There will be one opening session, one closing and one intermediate session of a purely scientific character. The opening session, which will be of a solemn character and presided over by the supreme authority of the nation, besides being attended by the members of the congress, will also be attended by the members of the scientific societies, and other distinguished persons who may be invited. The session will be opened with the report of the general secretary. This will be followed by a speech of welcome, pronounced by the president of the congress. Two members will then speak on scientific subjects, and they will be followed by a speech from the president of the republic. It is strongly recommended that the scientific speeches should be of short duration. The intervals between the speeches will be filled up with musical performances. At the closing session, the general secretary will notify the place designated by the congress for holding the third meeting. The treasurer will present his accounts to the congress, showing the disbursements made of the funds entrusted to his care. A scientific speech will be delivered and a short speech by one representative of each one of the nations attending the congress. In the intermediate session, four speeches will be delivered on general matters, by persons who are highly distinguished in medical science, and who, having been in due time invited to do so, have accepted the commission; one of these speeches being pronounced by a Mexican physician, who shall be invited to do so by the committee of management. No discussions will be held in the general sessions.

Sessions of the Sections.—These sessions will be held from 9 to 12 A. M. and from 3 to 5 P. M., in the places that may be designated by the organizing committee. They will be presided over by the president of each section, alternating with the vicepresidents of each one of the nations that are represented in the respective sections. The person who may be appointed by the committee of organization, will be the ex-officio secretary of each section, and he will fill his post alternately with the secretaries of the nations who may be represented in the sections; but should the latter not be present, their places will be supplied by the president in office. The president will direct the discussion in accordance with the order of the day, and will decide all questions that may arise, and that may not be provided for in these regulations. The ex-officio secretary will make out the minutes, and for that purpose, besides his own notes, will collect those of the secretaries who may have acted in the section. He will also collect from the persons who may have spoken, the written extracts referred to in the following paragraph. All questions relating to the debates which are not provided for in these regulations, will be decided in accordance with general parliamentary practice. The voting will be by putting the question.

Papers, Extracts Thereof and Discussions in the Sessions of the Sections.—All papers will be presented in writing. Each author will forward to the secretary of the organizing committee in the City of Mexico and before the first day of August of the present year, an extract not exceeding three hundred words, of the paper to be presented by him. These extracts will be printed in English, French and Spanish and will be distributed to the members of the congress, before the session in which they are to be read. No paper will be announced which is not accompanied by this extract; but the authors who comply with these conditions, will have a right to have their work published intact in the transactions of the congress. The reading of the papers in the sessions must not last more than twenty minutes; when the papers are so long they cannot be read within that time, the authors will give extracts from them, either in writing or by speech; but they will be published intact in the transactions of the congress and in the language in which they have been written. The extracts referred to in the preceding paragraph will be delivered at the same time as the papers, to the secretary of the section to which they pertain. The members of the congress who may take part in the discussions in any section will present their speeches in writing at the termination of the sessions, to the respective secretaries of such sections and they will also be published in the transactions. The papers which have been announced for reading in the order of the day in each section, will serve as subjects for discussion. In such discussions, no speaker will be allowed to speak more than once and for five minutes; but the author of the paper under discussion, will be allowed to reply, if he considers it necessary, in one sole speech, which will not go beyond ten minutes.

Auxiliary Committees in the Mexican Republic.—These committees will be appointed by the committee of organization and will be composed of one member for each Local Medical Society, or in their absence, of one physician for every centre of population. They will cooperate with the committee of organization in promoting the success of the congress. Said committee will be appointed during the first months of the present year.

Executive Committee.—In order to form this committee, the organizing committe will appoint seven members, including the president, secretary, treasurer, and the Mexican representative in the international executive committee, and such members will attend to everything relating to the business of the congress, in accordance with regulations that they may adopt for that purpose.

Doctor Manuel Carmona y Valle.
Doctor Rafael Lavista.
Doctor Eduardo Liceaga.

Mexico, January, 1896

MINOR INTELLIGENCE.

Country physicians in France employ the horseless carriage.

A Hawkbill nasal scissors is announced by Doctor J. C. Lester, of Brooklyn, New York.

Great Britain manufactured over one million barrels more of ale this year than in 1895.

The honorary degree of Doctor of Medicine has been conferred upon Bismark by the University of Zena.

A director for the stomach tube has been invented by Doctor Mark I. Knapp, of New York City.

The Towarzysto Lekarzy Polskich is the name of a society recently organized in Chicago by Polish physicians.

A portable sterilizer and dressing retainer has been introduced by Doctor J. P. Prentiss, of Omaha, Nebraska.

Twenty masonic lodges of Brooklyn, New York, are considering the erection of a Masonic hospital in that city.

Mrs. Elizabeth Shurly, wife of Doctor E. L. Shurly, of Detroit, died in Rhinebeck, New York, on Saturday, August 22.

The trustees of the University of Pennsylvania have awarded the contract for a new building for the department of dentistry to cost $120,000.

The Roentgen rays have a new sphere of usefulness. By their aid chalk can be detected in flour; brick-dust in Cayenne pepper, and sand in spices.

It is said there are about two hundred different styles of dental forceps. The variations are in sizes and forms of the beaks and shapes of the handles.

Typhoid fever recently prevailed to an alarming extent in New Haven, sixty-nine cases having been reported during the last few days of August.

Professor Pajot, recently died in Paris. He had been connected with the University of Paris for nearly forty years, occupying the chair of obstetrics.

Doctor William McGowan, of Latrobe, Pennsylvania, recently bequeathed a large estate to the University of Pennsylvania, $20,000 of which is in personal property.

The annual meeting of the New York State Association of Railway Surgeons will be held in New York City on November 17, under the presidency of Doctor C. S. Parkhill.

The founders of the Royal Victoria Hospital in Montreal—Lord Mount-Stephen and Sir Donald A. Smith—have recently donated an endowment fund of $800,000 to maintain the institution. This amount will insure the hospital an annual income of about $40,000.

Sister Mary Irene, of New York City, died on August 14, aged seventy-three years. She was born in London in 1823, became a Sister of Charity in 1850, established the Foundling Asylum in New York in 1869, and was also instrumental in founding the Seton Hospital for Consumptives at Spuyten Duyvil.

Doctor John M. Toner, a prominent physician of Washington City, died on July 31. In 1882 he presented to congress a collection of thirty thousand historical and medical works, together with a large collection of original letters and papers of George Washington, which he had spent many years in gathering and which constitutes the largest number of Washington manuscripts extant.

At the recent meeting of the Mississippi Valley Medical Association the following officers were elected for the ensuing year: President, Doctor Thomas H. Stuckey, of Louisville; first vicepresident, Doctor Charles A. Wheaton, of Saint Paul; second vicepresident, Doctor Paul Paquin, of Saint Louis; secretary, Doctor Henry E. Tuley, of Louisville. The next meeting will be held in Lexington, Kentucky, on the last Tuesday in October, 1897.

RECENT PUBLICATIONS.

REVIEWS.

PRINCIPLES OF SURGERY.*

It is now five years since **Doctor Senn** submitted the first edition of his classical work on surgery. The progress of the science has necessitated a new and revised edition. All that has been said in praise of the early work can only be repeated now. As evidence of studious and patient devotion to surgery as a science, **Professor Senn**'s volume will maintain its proud position, and keep green the reputation of its author.

For acquiring a fundamental knowledge of the actual principles of surgery **Professor Senn**'s work stands alone. Many excellent works more or less successfully exemplify the art of surgery, but none probably in the English language, exactly fulfill the purpose so admirably achieved in the work before us, that of familiarizing the surgeon with the science upon which his art is based.

*By N. Senn, M. D., Ph. D., LL.D., Professor of Practice of Surgery and Clinical Surgery in Rush Medical College, Chicago; Professor of Surgery in the Chicago Polyclinic; Attending Surgeon to the Presbyterian Hospital; Surgeon-in-Chief to Saint Joseph's Hospital; Ex-President of the American Surgical Association, et cetera. Second edition, thoroughly revised. Illustrated with 178 wood engravings and five colored plates. Royal octavo, pages xvi, 656. Extra cloth, $4.50 net; sheep or half-Russia, $5.50 net. Philadelphia: The F. A. Davis Company, Publishers, 1914 and 1916 Cherry street.

DIET IN SICKNESS AND HEALTH.*

Mrs. Hart has written a plain and practical manual of dietetics, which will be of equal value to the physician and patient. Her effort receives the stamp of authority, when it comes recommended by so eminent an authority on dietetics as Sir Henry Thompson. Mrs. Hart displays a familiarity with the resources of the kitchen which enables her to supply a practical and suggestive series of menus for the various maladies in which dietetic treatment is indispensable. Her book strikes us as a very desirable one for the laity to familiarize themselves with when desiring to obtain information upon matters essential to their well-being.

*By Mrs. Ernest Hart. With an introduction by Sir Henry Thompson, F. R. C. S., M. B. (London). Price, $1.50. W. B. Saunders, Philadelphia.

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ORIGINAL CONTRIBUTIONS.

MEMOIRS.

THE UTILITY OF OMENTAL SPLINTS IN INTESTINAL SURGERY.*

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[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

It is now several years since Senn first suggested the use of grafts and flaps from the omentum in intestinal surgery. It would seem superfluous, then, at this time to discuss their utility, were it not that a careful study of the surgical literature both of Europe and America shows that surgeons are, as a class, not yet alive to the importance of using the omentum as a splint to protect and better secure an intestinal wound. I regard this procedure, however, as so important in securing success in operations on the intestines that I feel warranted in bringing it again before the profession for discussion.

The omentum is characterized in the healthy subject by an extreme mobility. Lying like a curtain over the intestines it may be drawn to any part of the intestinal tract which is covered with peritoneum. In certain persons, however, it is small and deficient, and in wasting diseases it may become atrophied. Thus in autopsies of tubercular subjects it is not uncommon to find a mere remnant of an omentum, this organ partaking in the general wasting of the body. In peritoneal tuberculosis it may become adherent, shrunken and lumpy and thus become illy adapted for surgical purposes. It has the property common to all peritoneal membranes of adhering to an irritated surface and in twenty-four hours will become so firmly attached as to oppose obstinately any effort to separate it from the underlying surface. It will adhere in this way to surfaces of connective and muscular tissues as well as to those of peritoneum and for this reason is especially valuable as I shall show in the repair of postperitoneal fistulæ of the large intestine. By virtue of this quality it acts as a conservative agent in preventing intraperitoneal suppurations from becoming general. It is a common experience with surgeons to find abscesses localized by a wall of omentum which protects the general peritoneal cavity. When applied over an intestinal fistula so as to firmly cover the surface of the gut surrounding the orifice it will, after twenty-four hours, make a strong obstacle to the discharge of feces. The contact of feces with it causes vastly less irritation than a similar contact of feces with the connective tissues. If, after the repair of an intestinal fistula, the sutures give way and permit even a small amount of fecal matter to

*Read before the Detroit Medical and Library Association.

come in contact with the connective tissues, there will be renewed suppuration and a complete undoing of the surgeon's work. If such a wound is covered with the omentum and then yields to the pressure within and permits the intestinal contents to touch the omental splint, evil will rarely result from this contact, if sufficient time shall have elapsed to permit of the agglutination of the omentum to the underlying surface. The tolerant membrane will prevent the further escape of feces and give support to the weakened bowel while nature closes the gap by granulation.

The practical value of this knowledge is obvious. Let us, however, consider to what classes of cases the omental splints may be most useful. First of all to be considered in this connection are the wounds and fistulas of the large intestine. Every surgeon of experience in abdominal surgery knows how difficult it is to secure a safe union in operations on this viscus. Both the anatomical and the physiological characteristics of this gut make its surgery peculiarly hazardous. Drawn into folds by its longitudinal bands, it does not offer that smooth, even surface which makes the suturing of the small intestine easy. It is from the same cause after suturing more resilient and more refractory to the confinement caused by stitches. Distended with gas, which cannot regurgitate through the ileo-cecal valve and which meets with a resistance, below, from the sigmoid flexion and the firm sphincters, it tends to break loose from its sutures, however skillfully they may be applied. This tendency is aided by the tenacious and putty-like character of its contents. While the fluid contents of the small intestine pass over the surface of a wound without injuring it or adhering to it, the more solid feces of the colon stick to any raw surface and serve as a wedge to force a sutured wound apart.

These peculiarities make the future of a wound uncertain even when the wound is located on its internal aspect where gut is covered with peritoneum and the edges of a cut can be secured by successive rows of sutures. When, however, the posterior and attached surface of the ascending or descending colon is the seat of a wound or a fistula, we are confronted with a condition which demands for its cure all of the resources of the surgeon. On the attached border of these guts there is in most people no peritoneum. The wall of the gut is here composed of but two layers, the mucous membrane and the posterior longitudinal band, for the circular muscular fibres are few and irregularly placed among the sulci.[1] Even in persons in whom these intestines are attached by a mesocolon, the point of attachment is nevertheless a vulnerable spot which the surgeon should if possible avoid, but when, as is usually the case, the colon lies against the lateral abdominal wall, with a considerable surface bare of peritoneum and in contact with the connective tissues of that region, the resulting condition is one which invites surgical disaster and is therefore peculiarly worthy of study. Especially is this true of the region of the appendix, the most vulnerable spot in the male abdomen. Inflammations of the appendix are liable to result in suppurations which invade the connective tissues behind the gut. The posterior longitudinal band, held to the bowel by not very strong connective tissue and not protected here by a cover of peritoneum, may become separated from it by the destruction of that connective tissue by micrococcic invasion. There is, then, nothing left between the abscess and the intestinal cavity but a layer of mucous membrane which, when released from the infolding caused by its attachment to the shorter longitudinal bands, is found to be exceedingly thin. The enormous holes in the colon which sometimes result from neglected appendicitis, are probably caused for the most part in this way. An abscess dissects the longitudinal band from the intestine and then dissolves the thin mucous membrane, destroying it sometimes over large areas. Should such an abscess be evacuated by incision before perforation of the intestine had occurred, the longitudinal band might become attached to the surrounding muscles and fascia and be permanently separated from the intestine. This will make any secondary operation peculiarly hazardous as the bowel would easily rupture when thus denuded under slight exertion of force. This happened to myself in one case which I will presently relate. When the bowel under such circumstances becomes torn or ulcerated through, its repair is exceptionally difficult. Lembert stitches in that region are out of the question for there is no peritoneum and the detachment of the longitudinal band has left nothing of the bowel but a very thin membrane. To close such a fistula, the surgeon has to pass stitches through the mucous membrane and then if possible double the bowel in at that point and apply as best he can an outside row of sutures. The ordinary result of such a procedure is failure. No less a man than **Treves** reports a case of fistula of the ascending colon, caused by a cut of the attached portion, which after two operations was abandoned as hopeless. In these desperate cases there are only two procedures which promise success, one of which is the resection of the affected portion of the gut, a most formidable and dangerous operation, and the other, the closure of the fistula by an omental splint.

Mr. C., aged twenty-four years, entered Saint Mary's Hospital on January 1, 1895, with a suppurating appendicitis. I contented myself with opening the abscess, not wishing to run the risk of contaminating the peritoneum by a prolonged search for the appendix. On leaving the hospital, after recovery, he was cautioned to return at once for operation if there should be any recurrence. On the evening of November 26, he returned with a renewed inflammation of twelve hours' duration. I operated on him the next morning. I made the incision over the colon and sought for the appendix. The colon was embedded in a mass of old adhesions, but there was nowhere any pus. The bowel was carefully lifted up as the adhesions were broken and the appendix, long and irregularly swollen, was found pointing toward the kidney. After its removal I noticed a small spot of feces in the wound, and, on examination of the gut, found that the posterior longitudinal band had been broken, and that there was a rent through the mucous membrane of a quarter of an inch in length. The gut in this part ballooned out in a curious way. The two intact bands of longitudinal muscle held the intestine taut on the inner and upper side, while it bulged out in a thin balloon on the other side. I had never before realized the extreme thinness of its inner coats.

I sewed the rent together with fine silk and sought for tissue in which I could insert Lembert sutures. This proved to be impracticable and the wound was accurately closed in the hope of securing immediate union. There was no rise of temperature or sepsis. but on the third day there appeared some thin feces on the edge of the wound and it became necessary to remove the stitches. The discharge of feces through the wound increased daily in quantity and soon there appeared an opening in the gut into which one could pass the little finger. This enlargement of the rent seemed to be caused by purely mechanical means, the thin membrane not being able to withstand the impact of the semisolid and tenacious feces. It was impossible to get a passage through the normal channel. Purgatives and enemata alike had the effect of causing large evacuations through the wound, but none through the anus. He was not even able to pass wind through the rectum. After three weeks of observation, the patient was operated on for the cure of the false anus. After separating the gut from the abdominal wall I drew the rent together by five silk sutures passed through the mucous membrane, but was obliged to use the utmost caution to prevent them from cutting through the thin and fragile tissue. Lembert stitches were out of the question, on account of the absence over a large area of both muscular band and peritoneum. It was evident that the operation would prove a failure unless I could strengthen the weakened membrane by the addition of new tissue. In this emergency I availed myself of a procedure which originated with **Senn**, and which, in my opinion, should be applied when possible to every injury of the colon requiring operative repair. I incised the peritoneum over the gut to the extent of two and a half inches, and through this cut drew out the omentum and fastened it with sutures all around the impaired and exposed part of the bowel, tucking well down behind and under the intestine. The effect of this was to interpose a barrier of peritoneum between the recently sutured gut and the connective tissue, and thus to provide for the inevitable leakage of feces by having it come in contact with a tissue which is more tolerant of such insults and which at the same time becomes rapidly adherent to any raw surface. The wound was then closed by layers of silk stitches and it healed in a very short time. It was instructive to see the immediate restoration of the function of the large intestine. On the very next day he had a normal evacuation of feces. That which could not be accomplished by purgatives or enemata took place spontaneously, as soon as the mechanical integrity of the bowel was restored.

Another case, illustrating the same procedure, was one of tubercular appendicitis followed after a considerable interval by a tubercular ulcer and perforation of the colon at the site of the appendix.

A man, aged thirty-nine years, entered Saint Mary's Hospital on December 11, 1895, with chronic appendicitis. He had had numerous attacks of pain in the right iliac fossa with pain radiating down the right thigh and leg. There was pain on pressure over McBurney's point, considerable muscular tension and slight fever. There was no perceptible tumor. I operated on him on December 13, and found the appendix adherent to the adjoining coil of intestine. There was no abscess but there were in the appendix numerous tubercular nodules. I amputated the appendix close to the colon and the wound, except for a small stitch abscess, healed by first intention. The patient went home feeling much better but complaining still of the pain in the thigh and difficulty in walking. He placed himself at home (Owosso) in the care of **Doctor Phippen**, a very competent physician. He gradually failed in his general health and developed symptoms of spinal caries, and finally of psoas abscess. This opened and discharged. He had been home about a month when the wound in the abdomen reopened and fecal matter began to pass through it. He returned to the hospital on May 24. I found him much emaciated and bed ridden. There was a small opening in the abdomen, discharging occasionally a small amount of fecal matter, and a sinus opening in the upper part of the right thigh, from which poured copiously a quantity of pus. His temperature ranged from 99.5° in the morning to 101.5° in the evening. On June 2 I explored the sinus in the thigh. It extended down the thigh for about six inches. I made a counter-opening, scraped it out, flushed it well and put in a drainage tube. No orifice of communication could be discovered between it and the parts above Poupart's ligament. I did not think it best to disturb the fecal fistula until he should have gained more strength.

On June 17, his general condition having much improved, I opened the abdomen at the site of the fistula and exposed the cecum and colon. I found the cecum and adjoining coils of small intestine covered with tubercular nodules. At the spot where the appendix had joined the cecum there was an ulcer in which the end of the little finger could be inserted, and the intestine all around it was the seat of a tubercular infiltration.

Without much hope of success I cut away the edge of the fistulous opening and drew the borders together with through-and-through sutures. I then brought down the omentum and wrapped it in a large fold around the diseased bowel, fastening it by sutures to the neighborhood of the wound so that the wound was completely enveloped by it.

The wound in the abdomen healed rapidly and on July 9 I sent him home cured of his fecal fistula. The sinuses in the thigh, however, were still discharging and his general health was such as to make his final complete recovery doubtful.

I think that it will be conceded this case yielded most conclusive evidence as to the value of omental splints, for what could offer a worse prognosis than a tubercular perforation of the cecum in a subject who had spinal caries and an open psoas abscess. I should lay it down as a rule that wherever a lesion of the large intestine demands a suture the line of union should, if possible, be supported by a thick layer of omentum. Even when the wound is on the serous surface its union will be made more secure, but when it is on the attached surface, where there is no peritoneum, the omental splint becomes indispensable. In wounds of the small intestine, which are disposed to heal readily, this procedure is not so necessary, and yet even here I should feel more safe from accident with this additional safeguard. In resections of the stomach, which are so liable to prove fatal from stitch insufficiencies, it would seem to me that the use of omental splints applied all around the sutures would add greatly to the safety of those operations. I have, however, had in this no personal experience.

Now, as regards the mode of operation. **Senn** advises the use of a flap cut from the omentum, or if that were impracticable, the use of completely detached grafts. There are, in my opinion, grave objections to these methods of procedure. In order to accomplish its purpose best the omentum should be applied with as little as possible disturbance of its vascular relations. It is a tissue normally well supplied with blood-vessels and probably no small part of its power of resistance to the irritation produced by contact with feces or pus is due to its great vascular supply. To cut it into a flap, is, necessarily, to alter these conditions of blood supply. Some blood-vessels would have to be tied and cut. If instead of using a flap, we use omental grafts, we then have to rely entirely upon their capacity of quick adhesion for their vitality. It is not probable that such grafts, however quickly they might become attached to a raw surface, would long resist the pressure of feces, if a suture should give way and thus permit their escape. Besides this, the detachment of a flap from the omentum and its suture to the bowel would result in a cord-like band under which the intestine might easily be caught and strangulated. For these reasons it seems to me better surgery to apply wherever possible the uncut omentum. It should be drawn over the bowels like a sheet and its extremity wrapped around the wounded intestine, covering the suture closely and widely. In this way the surgeon secures the very best possible support to the gut, one which is richly supplied with blood and which, covering the whole abdomen as a sheet, does not cause danger of intestinal entanglement. When from atrophy or disease the omentum cannot be drawn down to the wounded surface without too much tension, the surgeon may then properly resort to omental flaps or grafts, or use neighboring coils of intestine as splints to the one that is wounded.

A FEW REMARKS ON NEURASTHENIA.*

By IRWIN H. NEFF, M. D., Pontiac, Michigan.

[published in The Physician and Surgeon exclusively]

The disease having the misnomer—the American disease—is insidious in its nature, often difficult of diagnosis, and has a varied clinical history, resembling in these respects its sister malady—if I may so term it—hysteria.

Foreign authors interpret the disease somewhat differently from our American authorities, many regarding it as a preliminary step to organic nervous disorders, some of them confounding it with hysteria and certain degenerative psychoses. **Regis** places it under the head of degeneracies of evolution, and states that the essential cause is heredity, acknowledging, however, that *occasionally* hereditary tendency may be absent, but questions if an organic predisposition does not exist in these cases. **Arndt** states that it is essentially a congenital and mostly hereditary condition, and in cases in which it has been acquired its development was furthered by certain injurious influences. Furthermore, neurasthenic symptoms, accompanying hysteria, and even serious organic or psychical disorders, may develop. **Playfair** distinguishes between neurasthenia, hysteria and hypochondriasis, giving to neurasthenia a definite clinical history and a certain line of treatment. **Blocq** considers neurasthenia as a neurosis, distinguishing it from other neuroses and stating that it may develop into serious nervous or psychical disorders. **Gowers** regards neurasthenia as a fashionable term and does not consider it as a definite malady. He confuses it with hysteria and other functional nervous trouble, and laments that the word has been coined,

*Read before the Detroit Academy of Medicine.

maintaining also that hereditary history can, in a majority of cases, be found. It is significant, however, that lately his description of the disease has been more specialized, and he has described it more definitely. **Hirt** gives the disease a place by itself, and diagnoses it clearly from other neuroses.

I have cited the above authorities merely to show how the subject has appealed to foreign authors and what diversity of opinion exists. America is said to be the home of neurasthenia. Although unquestionably the disease existed before **Beard's** able work on the subject, it is not denied that our writers have given more investigation to the subject, and consequently superior descriptions. The disease has received its best study in America.

As is usual, after a disease has been thoroughly studied, it is thought that the multitude of symptoms enumerated by **Beard** should be limited, and that there is, perhaps, a tendency to confuse with neurasthenia symptoms of other neuroses. The study of neurasthenia is progressing steadily. The disease is now clearly defined, and we find our authorities approaching a uniform description on a clean-cut basis. It is my intention to briefly give our recent ideas on the pathology, causation, prognosis, and treatment of the disease. It is, of course, impossible in a short time to detail all the essential symptoms of the malady. My remarks will be somewhat scattering and may be lacking in many important details.

Cowles, in 1891, in an elaborate paper on neurasthenia or "pathological fatigue," as he then termed it, compared it with normal or physiological fatigue and thus deducted conclusions. In normal fatigue, with the discharge of energy the toxic products of exercise are always formed in nerve and muscular tissues. From this and other sources toxic elements may accumulate in the blood and tissues. In pathological fatigue these toxic products contribute to a local or general inanition and autointoxication. He further states that these changes in nerve cells attending normal fatigue support this theory, the changes bearing a direct relation to the etiology and pathology of neurasthenia. **Berkley**, **Hodge** and Mosso have recently demonstrated the changes in the nerve cell in various forms of intoxication and fatigue. **Hodge** especially has studied the nerve cell before and after fatigue, using for his purpose animals in which in some cases prolonged electrical stimulation was used for the purpose of exhaustion. In other cases the nerve corpuscles were studied after a physiological exhaustion. In both cases the changes were the same and consisted of alterations in the capsule (if these existed), the nucleus, and cell protoplasm. Briefly stated, these changes were shrinkage of cell protoplasm with resistance to staining, vacuolation in the cell body, irregularity in outline and diminished size of nucleus, with decrease in size of nuclei of capsule. There is another fact of importance: The nerve cell, after sufficient rest, gained its usual contour and appearance. These experiments are perhaps more than suggestive and might well serve as a basis for a rational pathology of neurasthenia. The symptoms of nervous exhaustion would certainly indicate such a condition, and a palliation of cure following rest would indicate restoration of the cell. If these experiments on the neuron should have the anticipated realization we may eventually obtain a true pathology for neurasthenia and other neuroses, and thus be able to discard the word "functional." Quoting again from **Cowles**, neurasthenia may be defined as "a morbid condition of the nervous system, and its underlying characteristics are excessive weakness and irritability or languor, with mental depression and weakened attention, these being merely expressions of inanition and autointoxication or pathological fatigue." In other words we have nervous weakness and nervous irritability dependent on an augmented reaction, both mental and physical, to external impressions.

When we consider the causation of the disease, we have producing agents without number. Dependent on the agent developing the disease, some writers have prefixed before the name of the malady the disease or bodily condition responsible for the disorder. Indeed every year we find a collection of new neurasthenias. Allow me to mention a few: Sexual and ovarian neurasthenia, lithemic or rheumatic neurasthenia, malarial neurasthenia, syphilitic neurasthenia degenerative neurasthenia, neurasthenia from ocular disorders, dyspeptic neurasthenia, and so on until every specialist can have, if he desires, a neurasthenia of his own. It is needless to say that such a classification is confusing and misleading. From whatever cause the neurosis may develop the disease *per se* has a symptomatology essentially similar in all cases, varying only in some secondary features or in degree.

Neurasthenia has both predisposing and exciting causes with the same relation as in other diseases. Heredity is an important factor in some forms of neurasthenia. One fact, however, should be borne in mind in estimating the importance of this agent. Insanity, epilepsy, or organic nervous disorders do not give the hereditary predisposition. In the majority of cases in which neurasthenia is suspected, if these diseases above noted have existed in ancestors, we should rather infer that the disease is not neurasthenia but a beginning psychoses or some grave nervous disorder. In neurasthenics we find the ancestors described as being nervous or perhaps hysterical, with no well described insanity. Gout, tuberculosis, and syphilis in parents can produce neurasthenia; also the abuse of stimulants. In fact, all enfeebling and depressing influences in the ancestry may prove a predisposition. Education and occupation and the age of the individual predispose to some extent. Bodily diseases such as tuberculosis, syphilis and gastric disorders and disorders of the sexual apparatus predispose in the acquired form by lowering the general nutrition of the individual.

Of the exciting causes I shall only allude to two of the most prominent, namely, overwork and traumatism. Overwork must be combined with excessive mental emotion especially depressive in character, such as anxiety, to produce neurasthenia. Persons have different capacity for work; therefore, in estimating the influence of mental or bodily strain, it is necessary to consider the individual. A large amount of work may be done provided the accompanying emotion is one of pleasure. If the work, whether intellectual or physical, be attended with anxiety, as business reverses or other troubles, a mental breakdown is possible. Traumatism may affect the nervous system in various ways. It may give rise to acute, or some degenerative nervous trouble, or may cause hysteria or neurasthenia either alone or in combination with some serious alteration of the nervous system. It is customary for some authors to include hysteria and neurasthenia so caused under the name of traumatic neurosis. Our late authorities, however, have distinguished between the diseases due to traumatic influences. It is extremely probable that a physical injury in a person, especially if they are predisposed, can produce neurasthenia. Trauma is especially liable to produce neurasthenia if it is accompanied by emotional shock. This has its ideal in railway accidents. Limitation of time prevents me from enumerating the symptoms of this interesting phase of the malady. Sufficient to say, we have in addition to the usual neurasthenic symptoms, hyperesthesias, and paresthesias, peculiar limitation of the visual field differing from that in hysteria with exaggerated psychical symptoms.

A few words regarding the prognosis and sequelæ of the disease. In the simple, uncomplicated form the prognosis is good; in the inherited form, the so-called "degenerative neurasthenia," the disease, as in inherited psychical disorders, is subject to relapse, and its chronicity may be firmly established. In every case, therefore, the family history should be carefully inquired into.

Neurasthenia, when neglected or badly treated, may serve as threshold for more serious diseases. It is, however, more likely to retain its original characteristics, as in very few cases the neurasthenia develops into a pronounced psychical disorder. Neurasthenia, then, may terminate in recovery, melancholia, the patient may become addicted to some drug, as alcohol or chloral and so on; or, lastly, we may have a terminal neurasthenia. It is necessary to remember that encephalasthenia is essentially a chronic disease and the characteristic neurasthenic symptoms may continue for years without any complication.

The diagnosis of neurasthenia is generally attended with little difficulty. It is sometimes confused with a "neuropathic" or insane condition. More often it is wrongly associated with hysteria and hypochondriasis. I wish to refer particularly to diagnosis in reference to these last mentioned diseases. Hysteria is a disease entirely distinct from neurasthenia, and although it might appear that the diseases have many points in common, the maladies materially differ in symptomatology and treatment. Hysteria again may complicate neurasthenia, and therefore our difficulties may seem increased. Hysteria is clearly a mental disorder involving the affected spheres of the will, and is accompanied by various stigmata. **Dercum** gives the following diagnostic points between neurasthenia and hysteria: "In hysteria we have paralysis in various forms; in neurasthenia there is never true paralysis. Anesthesia and convulsions occur often in hysteria; they are absent in neurasthenia. Contractures frequently develop in hysteria; these are absent in neurasthenia. Encephalasthenia is of gradual development, and the symptoms become more marked and persistent from day to day. The onset of hysteria is often sudden, and there is considerable variation in the symptoms. The hysterical stigmata are also of considerable importance in reference to diagnosis."

The diagnosis from hypochondriasis is quite easily made. Hypochondriasis is a psychosis, and the ideas are fixed. No amount of persuasion will convince a hypochondriac of the falsity of his morbid ideas. On the other hand in neurasthenia, if ideas of a hypochondriacal nature appear to be present, the patient can generally be convinced of his error. Again, these ideas in neurasthenia often develop from misjudged sensations and may have a true basis. Neurasthenia is also to be diagnosed from organic nervous diseases and the psychoses. Authorities today consider neurasthenia a distinct disease and deny its transition into any of the psychoses. If such a condition occurs it is accepted as an evidence of a neuropathic condition, and clearly excludes the disease we recognize as neurasthenia.

Having followed the disease in a somewhat rambling manner, it is true, through a few of its difficulties, let us consider for a few moments its treatment. It is at once apparent that a malady having such a varied etiology and complexity of symptoms would require a varied treatment. Just as no two individuals are alike in health, we may truly say no two individuals are alike in disease. Especially is this true in functional nervous trouble. No factor is more important to remember in the treatment of neaurasthenia than the necessity of individual treatment. All the symptoms of this disease are due to lowered tone of the nervous system and are merely expressions of exhaustion. When a muscle is tired, when any organ of the body is exhausted, nature asserts her rights and demands a certain amount of rest. This is necessary for recuperation and is demanded in order to secure a normal reaction of the tissues. This relation holds good in neurasthenia. There is nerve or brain tire with accumulation of fatigue products, and nature demands time in order that elimination and regeneration shall take place. The first suggestion for treatment is rest. Absolute rest, in the majority of cases, is to be secured if possible. Here the "**Weir Mitchell** treatment" is an ideal method. In many cases, however, this cannot be secured, and in some cases it may not be advisable. Relative rest can then be introduced. This can be obtained by an adherence to special hours for retiring and rising, for business and pleasure. It is well, when this plan is adopted, to have the patient follow a printed programme, and the patient should conform faithfully to these directions. Dietetic measures are often necessary, and the regulation of stimulants is an important measure. These can easily be included in the suggestions. The rest treatment is an ideal method, and is nothing more than nature's cure, introduced, it is true, at times in an artificial manner. Every physician treating neurasthenic cases adopts a form of rest treatment with these cardinal features. The success of the treatment depends, first, on the patient's cooperation; second, on its systematic use and thorough trial. In considering the drug treatment of neurasthenia, I have little to say. The use of medicines is of secondary importance in the treatment of the disease, but they are often indicated and may render valuable assistance, especially in combating some of the distressing symptoms. The treatment of neurasthenia is a subject of continual research. Organic extracts, injections of artificial serum, and saline injections have been heralded as specifics, and have each had their day.

It may not be amiss to review the essential features of the rest treatment. When WEIR MITCHELL described the treatment it was received with great enthusiasm. Nothwithstanding that the originator of the treatment cautioned the profession in regard to its indiscriminate use, the treatment was abused, and, fortunately for its popularity, discarded by many of its practitioners. Since being advocated it has been used by many neurologists in selected cases, and its efficacy is well established. With special arrangements, it possibly can be used in private residences. It is almost essential, however, that the patient be removed from home surroundings and home influences. Since the publication of DOCTOR WEIR MITCHELL's article, WHARTON SINKLER, of Philadelphia, has strongly advocated its use. This author, after examining the subject carefully, and detailing cases in which the method produced the best results, gives evidence to show that the rest cure does good in a variety of nervous disorders, such as hysteria, neurasthenia, neuralgias, mental disorders, and even in organic nervous diseases. The following is taken from PLAYFAIR's treatise on the disease, and clearly gives the essentials of rest treatment: (1) Complete rest, the patient being placed in bed and kept there during the treatment, with the exclusion of friends and relatives, and the attendance of special nurses. (2) Regular muscular exercise to produce tissue waste, by means of massage of the whole body, at first for ten minutes, this being increased until it amounts to an hour and a half daily. Electricity can be used with this treatment, or employed as a substitute. (3) Feeding, which is the most essential part of the treatment. At first the patient should be placed on milk alone—about five ounces every third hour. Within a few days this is increased to ten ounces, so that at least two quarts are taken in twenty-four hours. Then by degrees solid food is added, so that within a fortnight the patient should be taking three large mixed solid meals daily in addition to the milk, and often a cup of strong soup or broth, and possibly with the addition of peptonoids. This exaggerated diet is continued for six weeks or two months, when it is gradually lessened, the massage and faradism also being discontinued, and the patient allowed to get up. In an average case the patient should gain from fourteen to twenty-three pounds during this time. At the end of the treatment, in most cases, it is advisable that the patient should go for a change, either on a sea voyage or abroad, so as to complete the cure. At any rate the patient should not return to the family until the health is reestablished

This is merely an outline of the treatment. To discuss its various secondary features in detail would consume considerable time, and, as every modern work on neurology contains a complete description, it seems unnecessary. In asylums, in acute cases, this treatment is often used, either in entirety, or the relative rest treatment is employed. It is followed by success in a majority of cases, and is one of our chief methods in the treatment of acute psychoses.

In conclusion, I make the following summary: (1) Neurasthenia is a nervous disease having distinctive features and well marked diagnostic signs. (2) Neurasthenia may be the outcome of various other functional and oganic affections, therefore it is divisable into two forms—(a) simple neurasthenia, and (b) symptomatic neurasthenia. (3) The symptoms of neurasthenia are dependent on nervous exhaustion. Experimental physiology would indicate that this is coincident with changes in the nerve cell, induced by fatigue. (4) The etiology of neurasthenia is divided into predisposing and exciting elements. In the former, heredity has an important role; the prominent exciting cause in the latter being fatigue. (5) The prognosis in the uncomplicated form is good. In the so-called "degenerative form," and in elderly persons relapses are frequent. (6) The treatment of neurasthenia has as an essential feature the employment of rest in some form, associated in some cases with dietetic, electric, and hydropathic treatment, and the use of appropriate drugs to combat symptoms.

CONSTIPATION.*

By WALTER J. CREE, M. D., Detroit, Michigan.

[Published in The Physician and Surgeon exclusively.]

The subject I have chosen this evening has not, I believe, been presented to the Academy for a long time, and while on my part nothing new can be offered, considerable information may arise if the paper be worthy of discussion.

Constipation or a sluggish condition of the intestinal tract is a very common and obstinate trouble and should demand our attention. It has seemed to me that there is perhaps too much attention paid to the infrequent or greater cases and too little to the common or lesser ills of life. In a condition of health the bowels should be evacuated at least once daily; some individuals have two or more evacuations and are in a healthy condition, while others are aroused to nature's call every other day and are in good condition. Each person is a law unto himself and the frequency of the evacuations alone within moderate limit is not a sign of constipation.

The symptoms most common in constipation are headache (more pronounced in acute or I might say occasional attacks of constipation)—the head feeling dull and heavy, mental incapacity, nervousness and a general irritable condition. The breath is foul and the perspiration at times has a decided fecal odor. The tongue is furred and the skin may have a dirty, muddy appearance. There is a feeling of heaviness in the abdomen, general disorders of digestion, intestinal colic, and of course the infrequent evacuations—dry and deficient in quantity.

Causes.—The causes may be mechanical, such as adhesive bands resulting from previous inflammations, new growths pressing on the intestine, twists in the intestine, invagination, et cetera. Ulcer of the rectum, anal fissures and hemorrhoids may induce the trouble. A common cause is dilatation of the large intestine resulting from the lodgement therein of large quantities of fecal matter and consequent loss of power. The quantity and quality of food will have an effect on the evacuations; concentrated and small quantities of food usually induce small and infrequent passages, the intestines requiring a sufficiently large bolus for excitement and the production of the normal peristaltic action. Lack of fluid in the intestinal canal and deficiency of the intestinal secretions is a cause of the trouble, and the more fluid present the quicker the intestinal contents pass along. I have thought the excessive drinking of improperly prepared tea a cause of constipation, especially in women. Sedentary habits of life, and neglect of the function of defecation are frequently the starting points of the trouble. Constipation may also arise from diseases affecting other organs, as the brain and liver, or occur in lead poisoning.

The *effects* of constipation are numerous, and predispose to catarrhal conditions of the intestinal tract, uterine congestion, irritation of the ovaries, bladder, etc. The blood by the absorption of effete materials is impoverished or poisoned.

Treatment.—Considerable judgment is required to treat successfully a case of chronic constipation. I believe much can be done by preventive treatment. Children should be taught to pay more attention to the functions of the body, and in passing I would say that the teachers in our public schools should never refuse children the right to leave the room when obliged to by the calls of nature. Closets should be made more inviting than a great many of them are, especially in the smaller towns and country. They are apt to be too public and exposed to the heat of summer and the cold of winter, thereby inducing a person to put off until tomorrow what should be done today. The construction of the seat should, I believe, be different, so that a person might assume a squatting position and bring into play all the forces used in the act of defecation.

It is only necessary to mention proper diet, fruits, exercise, bodily cleanliness and other things tending to facilitate normal evacuations. People drink too little water and constipation may be the result. The reason, to a great extent, that mineral waters do good is not so much on account of their medicinal virtues as because large quantities of fluid are taken into the system.

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* Read before the Detroit Academy of Medicine.

With regard to medicines I think all physicians have used about the same. I have found one drachm each of Rochelle salts and bicarbonate of soda in one-half glass of hot water every morning useful in some cases. I employ pulverized compound liquorice powder in constipation during pregnancy and after confinement. In constipation with anemia, iron in combination with aloes. The aloes, belladonna and strychnia pill is very useful in cases in which there seems to be a lack of tone in the intestine. The various preparations of cascara sagrada I have found useful. Podophlyllin has done me good service in certain cases. The use of glycerine suppositories have produced no results whatever as an evacuant of the lower bowel. For this purpose injections of tepid water have accomplished the best results.

To conclude, one should endeavor to ascertain the cause of the trouble, if possible, and remove it. The patient, if needs be, should be thoroughly examined. Much can be done by inculcating good habits in the young.

I have in a rambling sort of way and very briefly, gone over this quite extensive and interesting subject, and if it merit discussion I would be pleased if the prevention of the trouble and the construction of closets receive special attention.

709 GRAND RIVER AVENUE.

THE SURGICAL TREATMENT OF UTERINE FIBROIDS.*

BY W. P. MANTON, M. D., DETROIT, MICHIGAN.
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[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

MOST, if not all, cases of fibroid tumor of the uterus sooner or later demand operative interference for the relief of symptoms or the saving of life. Years of careful experimentation have conclusively demonstrated the futility of internal medication and local applications in this form of disease, and the number who put faith in the electrical treatment of fibroids appears to be steadily decreasing. At the same time a larger experience in surgical methods and an increased familiarity with operative technique have shorn hysterectomy of the terrors with which it was formerly surrounded, while the constantly improving statistics of the operation have stimulated and encouraged those who have been engaged in promoting its evolution. I do not, however, wish to be understood as advocating operative interference in every case of uterine fibroid which is brought to the attention of the physician. We are all well aware that there are instances in which surgery is impotent to afford relief; others in which the dangers from operation would far outweigh those resulting from the presence of the tumor; and still others in which the existence of some grave somatic disorder would render the extirpation of the growth, even if successfully accomplished, of not the slightest benefit to the patient. Omitting this unfortunate class of cases, there still remains a large majority of women affected with uterine fibroids for whom surgery alone offers the only chances of relief.

During the forty-three years which have elapsed since BURNHAM first successfully removed a uterine fibroid by abdominal section, a very large number of operations, and modifications of these, have been suggested by surgeons both in this country and abroad, but for purposes of discussion, only three methods seem worthy or desirable of mention.

(1) Celiotomy with extraperitoneal fixation of the stump.

(2) Celiotomy with intraperitoneal treatment of the pedicle.

(3) Vaginal myomectomy, or enucleation, or morcellation of the tumor per vaginam.

While the honor of the first successful case of partial ablation of the uterus for fibroid belongs to this country (1853), the method by which the operation was brought into prominence and which has been most extensively employed, originated with KOEBERLE of France (1863). The technique is exceedingly simple in the majority of cases, and the results obtained far better, from a mortality point of view at least, than from any other method thus far elaborated.

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*Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

The abdomen is opened, the ovarian arteries tied, the rectum and bladder separated from their uterine attachments, a loop of wire thrown around the cervix at about the level of the internal os and drawn tight by the ligature tightener, and the superimposed mass cut away. The peritoneum is then brought together by a continuous suture of absorbable material, particular attention being given to bringing it snugly about the stump, which latter is fixed at the lower angle of the abdominal wound where it is held in place by two hysterectomy pins run through its tissues, their ends resting on the surface of the abdomen. The parietal incision is then united in the usual manner, but below the surface of the stump, which is thus shut off completely from the peritoneal cavity. The stump is then treated with iron powder or simply dressed with dry cotton (BANTOCK), to hasten its mummification, and the usual dressings applied to the abdomen. The small remnant of the pedicle included in the wire loop usually comes away by the fourteenth day leaving a deep excavation which gradually granulates up, and in time appears only as a slightly wider portion of the abdominal scar.

I have employed this operation for the past twelve years in the majority of fibroid cases which have come to me for surgical treatment, and from my own experience it seems to me to be the best and most successful method, and of the widest application of any which have yet been suggested. The objections raised against it are, the formation of a sloughing mass due to the constriction of the stump, and the weakening of the abdominal wound from the inclusion of the tissues of the pedicle.

In answer to these it may be said that the amount of moisture arising from the stump depends very largely on the care bestowed by the operator on this part at the time of the operation, while as far as my individual observations go, I have never seen a hernia traceable directly to the cause mentioned. For a long time I was much interested to know what eventually became of the remaining remnant of the pedicle. Last summer I was obliged to reopen the abdomen of a patient at the Eastern Michigan Asylum from whom I had several years before removed the uterus together with a large fibroid tumor by this method. The connection between the abdominal wall and the stump had entirely disappeared, and the small bit of cervix remaining had sunk down to form a button at the upper portion of the vagina. It seems to me that this little piece of cervix at the crown of the vagina is a very important structure, holding, as it does, the other parts in their normal relation to each other, and preventing undue contraction of the vaginal vault and shortening of that canal.

Of the second method, the intraperitoneal treatment of the pedicle, it may be said that it probably approaches nearer to the "ideal" operation than any other. The late CARL SCHROEDER was a persistent advocate of this method, and to his pioneer work may be attributed the success to which this operation has now attained. SCHROEDER's method consisted in sewing up the stump of the cervix by tier suture, or in constricting it by means of a rubber ligature. The peritoneum was then united over the surface of the stump and the latter returned to the pelvic cavity.

The high mortality following this method of procedure did not commend it to the majority of operators, and with its originator's death it was practically abandoned. Many other methods, founded on the one just mentioned, have since been suggested. The best of these and the one which bids fair to be most extensively employed is that known as the GOFFE–BAER method. The main feature in this is the tying off of the uterine artery before the tumor is cut away. The peritoneal flaps are united over the stump, all the ligatures at the sides being also included under this covering layer. It is claimed for this method that it is simple and easy of application in any case, that convalescence is rapid and free from complications, and that all drainage or subsequent treatment is dispensed with.

The third method, that of vaginal myomectomy, is at present little performed in this country. It is essentially a product of the French school of gynecology, and has for its chief apostles such well-known operators as RICHELOT and SEGONG. In carrying out this method the cervix uteri is either widely divulsed, or incised, and the tumor attacked through the space thus opened up. In the case of small growths the tumor may be enucleated from its bed and delivered, or where the neoplasm is too large to permit of this being done the tissues are attacked by forceps and scissors and the growth removed by morcellation.

From the experience of a single case, it would seem to me that in suitable instances this operation should be chosen in preference to all others. There is less shock following the procedure than when the abdomen is opened, and recovery is rapid.

I have not gone into the minutiæ of the operations mentioned, nor have statistics been called into service to prove the superiority of the one over the other, my sole object in presenting this paper being to elicit a discussion on the subject as indicated by the title announced.

32 ADAMS AVENUE WEST.

THE TREATMENT OF ABORTION.*

BY W. F. METCALF, M. D., DETROIT, MICHIGAN.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

THE rhythm of the body of the uterus is controlled by the hypogastric and ovarian plexus of the sympathetic. Pathological conditions in the rectum, bladder, breasts or in fact in any part of the body may increase this rhythm. The same effect may be produced by the use of cathartics and other drugs; also by mental emotions. The nerve supply of the cervix uteri is largely cerebro-spinal, from the third and fourth sacral. It has no rhythm and guards the opening against the expulsion of the uterine contents. Extensive laceration of the cervix may destroy this function. To guard against a recurrence of abortion such tears should be repaired.

When degeneration of the placenta is observed, syphilis is the usual cause, and the use of mercury will prevent future trouble. Inflammations of the uterine mucosa should also be corrected. The majority abort during the time for the third menstrual period. Physical and mental quiet should be enjoined at this time in those who show a tendency to abort. It may be found advisable to keep some of these cases in bed for three or four days at the time for each menstrual disturbance. If at any time there is the least show of blood from the cavity of the uterus, which must come from the rupture of vessels in the placenta or decidua, thus tending to detach the ovum, the patient should be put at rest. If there be pain or much nervousness morphia should be given. I prefer the hypodermic method. It is more definite. The fluid extract viburnum prunifolium in doses of one-half drachm every three hours, I think beneficial. I have had no experience with the use of small doses of ergot to stop the flowing in such cases. The pulse and temperature must be closely watched. The services of a trained nurse in whom the patient and doctor alike have confidence is of great assistance. Efforts to prevent abortion should be maintained until dilatation of the os uteri, loosening of the membranes, or symptoms of internal hemorrhage or of sepsis present.

When it is decided that abortion is inevitable, the method of procedure will depend upon the duration of the pregnancy. In many cases, preceding the eighth week, before the placenta proper is formed, if the membranes have not been punctured, as in criminal abortion, all may be driven away by the uterine contractions. If the hemorrhage be slight and there appear no symptoms of sepsis, such cases may usually be left to nature. In such cases it is difficult if not impracticable to tampon the vagina so as to keep the blood in the uterine cavity, owing to the freedom of movement of the parts. The insertion of a tent into the os uteri would be more likely to accomplish the purpose. I have never found it necessary to use either. Cases of abortion at this early period are rare, except those of criminal origin, in which cases the membranes are usually punctured, the fetus expelled and portions of the chorion and decidua remain to form the nidus for germs, inserted with the dirty instrument used in its production. In these cases dilatation of the os by graded sounds until no resistance is felt, that is, until the muscles guarding the opening are paralyzed, and the careful removal of all fetal membranes and decidua by the sharp douche curette, using 1–3000 bichloride of mercury solution, and if evidence of sepsis be already present, the thorough application of a fifty-per cent. solution of carbolic acid in Churchill's tincture of iodine, followed by the insertion of a twenty-five-grain suppository of iodoform, is the proper treatment. This procedure I advise in that small proportion of cases in which you cannot sufficiently dilate the os to easily insert the finger, the proportion of course varying according to the size and shape of the hands of the different operators.

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*Read before the DETROIT ACADEMY OF MEDICINE.

I think it fair to say that in ninety-five per cent. of cases I adopt the following procedure: As soon as I decide that the fetus cannot be saved, after giving an anesthetic, I wash the perineum and vaginal passage with thymol or other antiseptic soap, then cleanse the parts thoroughly with 1–2000 solution of bichloride, soak my hand in the same solution, and after cleansing the nails insert it into the vaginal passage, forcing one or two fingers into the uterine cavity, thereby dilating the os thoroughly, loosen the membranes, passing up one side, over the fundus and down the other side. By this systematic method the membranes are quickly loosened, with the other hand steadying and pressing the uterus down upon the inserted finger. This manipulation usually brings on contractions, rendering easy the removal of the secundines by the finger. In certain cases it will be found advantageous to pass in by the side of the finger a blunt curved forceps, those devised by **Doctor Longyear** being the best I have seen for the removal of such particles as are difficult of removal by the finger. If there be no evidence of sepsis an intrauterine douche is not needed. If the abortion has been going on for a long time, the uterine walls lacking tone, the patient having shown symptoms of sepsis, after cleansing the cavity as above described, packing with iodoform gauze will be beneficial. It may be left in from twenty-four to forty-eight hours. The local irritation produced may cause its expulsion. If it reflexly produce nausea, or through the agency of the pulmonary plexus rapid respiration, or if other annoying reflex phenomena appear it should be removed sooner. The use of further intrauterine douching must be decided by constitutional symptoms. I endeavor to keep patients in bed for ten days.

Permit me to mention in connection with the use of graded sounds and sharp curette, that the succulent uterine walls are easily punctured. In non-septic cases the maternal decidua need not be curetted away.

The decomposing retained blood and decidual material form suitable culture media for various microorganisms. Among them I might mention the gonococcus and microbes common to inflammations elsewhere, as those of erysipelas, diphtheria, scarlet fever and measles. The streptococcus septicus is said to be identical to the germ of erysipelas. The staphylococcus pyogenes aureus and albus, are also found in these cases. **Bunm** has separated a distinct form of bacterium, which decomposes albuminous substances with the production of strong poisons without the synchronous formation of odorous bodies; we may therefore have in these cases, sepsis without detecting odor in the lochia. I have seen two such cases recently. In such cases the systemic symptoms may not present until three or four weeks after the abortion. Infection occurs through the means used to produce the abortion or through the carelessness or ignorance of the attendants.

Mention should be made of another class of cases in which suppurative disease of the uterine appendages exists, and in which, owing to the manipulations of the parts or to the contractions of the uterus, pus is expelled upon the peritoneal surface. In these cases the inflammation usually appears a few hours after the abortion. These cases are nearly always fatal, the only treatment being early abdominal section.

To emphasize the importance of proper treatment permit me to mention some of the sequelæ which may engage the physician's attention in ill-conducted cases. Pathological changes may be detected in any or all of the organs supplied from the hypogastric plexus and by the third and fourth sacral nerves, as endometritis, metritis, with resulting displacements, salpingitis, ovaritis and peritonitis. Aside from local examination these conditions are suggested by one or all of the following symptoms, which can be permanently relieved only by the removal of their cause: Menorrhagia, anemia, pain in the stomach, in the head, in the sacrum and in the thighs, indigestion, irregularity of the bowels, eructations of gas, loss of appetite, brownish-yellow lustreless skin, malnutrition and melancholia. To regain health, after the removal of the cause, many of these cases require rest, baths, massage, tonics and change of climate and environment. Cases properly conducted from the beginning usually recover their normal in a few days.

CHRONIC GASTRITIS.*

By FRANK B. WALKER, M. D., Detroit, Michigan.

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Chronic gastritis is by no means a rare disease. Rarely, however, is it treated by the average practitioner of medicine and surgery according to the principles that now govern his practice in many other affections. He still turns to the bitters, acids and pepsin to meet all indications in this disorder, just as many of his fellow practitioners in the veterinary art turn to the nitre bottle as the panacea for all the ills that their noble patients are heirs too.

It is a faithful saying and worthy of all acceptation that cleanliness is next to Godliness, and old and trite though it be, yet the full meaning of this expression is still partially hidden from our understanding and use. Most of those who successfully practice surgery now understand and appreciate the relation of cleanliness to wound repair and to all normal processes in the body. The rhinologist, laryngologist, dermatologist, gynecologist, rectologist and many also who treat the less easily accessible portions of the body apply this principle with the greatest success, and only as they apply it does complete success follow. It was therefore in perfect harmony with the practice of all these that irrigation of the stomach was first proposed by Blatin, a French physician, as early as 1832. Since that time methods for accomplishing this have been perfected so that now this procedure may unhesitatingly be included in the therapy of many diseases of the stomach.

It is not the intent of this paper to discuss the etiology, symptoms, pathology or diagnosis of chronic gastritis, but it is intended to suggest the wider but intelligent application of cleanliness in the treatment of this and other related affections.

The stomach is one of those unfortunate organs for which perfect rest is impossible even during treatment for chronic disease. This activity consequently modifies the treatment and not only checks the advance but ever and anon compels the retreat of recovery. The indications for treatment, then, include the regulation of its functions in the most nearly normal manner possible as well as the requisite means for subduing the inflammation, and have reference to the following:

(1) Diet and hygiene.
(2) Cleanliness.
(3) Aids to and restoratives of the normal function of the organ.

In a general way it may be accepted that "every dyspeptic must be his own physician." In the regularity of meals, thorough mastication of food, avoidance of severe physical or mental exertion immediately following a meal and restriction of diet, the patient must be determinate. The choice of particular foods will depend greatly on the idiosyncrasies of the patient. However, as a rule fat, highly seasoned and sweet foods, hot bread and pastry and all difficultly digestible foods are to be avoided. Close attention to all these points is absolutely necessary in order to avoid acute exacerbations of the disease, each one of which may have a more than temporary effect. Essential also are an abundance of fresh air, pleasurable exercise, cool baths, suitable clothing and a cheerful frame of mind.

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* Read before the Detroit Medical and Library Association.

Cleanliness is the first law of repair in injured or inflamed tissues. The lesion should be freed from not only the festive microbe, be it the source of the trouble or only an accidental visitor, but also from all foreign substances, irritating secretions and products of desquamation. The more easily accessible mucous membranes have already long and faithfully received this treatment, and been benefited or injured in proportion as the agent used was suited to the affected mucous tissue. The methodical use of the stomach tube dates from 1867 when **Kussmaul** employed a double-acting stomach pump to irrigate the stomach with alkaline solutions (Carlsbad water). Siphonage was used by **Fauche** of Paris, and by **Oser** of Vienna in 1879.

Until recently irrigation of the stomach has usually been restricted to cancerous subjects and those with dilated stomachs, and been accomplished by the use of a single tube through which a quantity of water was introduced and returned by siphonage. This process is better used in some cases than none at all but possesses the disadvantage of loading down the stomach, thereby, in cases of dilatation, exaggerating the very condition it is desired to improve. Usually also only the floor and lower lateral surfaces of the organ are reached by this means. In order to avoid the weight of a great quantity of water a double tube such as the one I have here has been employed. The cleansing solution is introduced through the short intake tube connected with a suspended douche bag or bulb syringe, and returned at once through the longer siphon tube. In order to cleanse the whole internal surface of the stomach a brisk douche is applied to all parts by applying force to the ingoing stream and by the use of a cribriform tip on the end of the intake tube. **Doctor Turck**, of Chicago, uses a ball-shaped tip which he calls a needle douche. A more nearly ideal one, it seems to me, is one composed of vulcanized rubber so perforated as to project streams in all directions and of the same shape as the soft rubber one now attached to the tube exhibited. This would allow an easier introduction of the instrument which is performed as follows: The patient, protected by a bib and rubber apron, is seated, and, as the tube is presented to his widely opened mouth, commences and repeats the act of swallowing. As this act of swallowing is performed the operator gently but firmly passes the tube with the same care exercised in passing a catheter or urethral sound. The patient is enjoined to keep his mouth widely open and breathe audibly. This preserves his confidence and restrains his fear of strangling. The tube having been passed sufficiently far, the intake tube is connected with the douche bag or syringe and irrigation begun. A moment or two later the siphon bulb is so operated upon as to suck up the water from the stomach until siphonage becomes established. This procedure may be continued until the solution returns clear or as long as necessary. Antiseptics may afterward be applied to the cleansed surface to prevent the growth of microorganic life. For this purpose carbolic acid, boric acid, lysol, camphor, creolin, formalin and other antiseptics have been used. The combination used by **Doctor Turck** and most highly recommended by him consists of the oils of cinnamon and cloves (equal parts of each, with fifteen per cent. of menthol added) and is applied by nebulizer. This application he has discovered to be not only antiseptic but also analgesic and vasomotor stimulant.

Doctor Turck often precedes the use of the stomach tube by the application of a gyromele consisting of a cable with a sponge attached, which is passed down through a rubber tube and made to revolve within the stomach. This wipes the internal surface of the stomach, loosening the hypersecretion of mucus and serving also as a gastric motor stimulant.

Irrigation is not to be applied indiscriminately even to patients affected with chronic gastritis as in extremely thin patients the withdrawal of the entire stomach contents means the loss of essential food elements. In the more robust this loss is not of such importance. If used, to be of the greatest benefit, irrigation should be performed frequently enough to keep the stomach free from the hypersecretion of mucus which is both irritating by its presence and interferes with digestion.

Since in this disorder the normal aids to digestion, acid and the ferments, are often either deficient or altered so as to be inefficient, it becomes necessary to resort to the use of remedies which shall be the best possible substitutes. Writers on this subject almost invariably advise the prescription of hydrochloric acid and some, DOCTOR FLINT among them, consider the use of pepsin as unnecessary if not ridiculous. The deficiency of hydrochloric acid and the abundance of pepsin may have been the condition in their cases but in some of mucous gastritis treated by the present writer the opposite proved to be true, and the use of pepsin with meals was beneficial. Pancreatin is also beneficial in the digestion of the farinaceous portion of the diet. The bitter tonics, especially nux vomica, will stimulate secretion and increase the muscular tone of the stomach. The increased ingestion of sodium chloride will aid in the production of hydrochloric acid.

Sufficient attention must be given to correct constipation so often present in chronic gastritis. To this end the hygienic measures already alluded to will be of value. An occasional enema, a glass of hot water taken before breakfast or with either common salt or Carlsbad salt added, will be of service. Bran, either raw or made into gems, has a remarkably good effect in certain individuals.

Of the seven cases treated by irrigation by the writer, one was of cancer of the stomach with dilatation, one of chronic inflammation with dilatation, two of chronic inflammation—second stage, and two of the chronic form—first stage. All have been treated along the lines indicated with encouraging results.

THE RELATION OF SYPHILIS TO INSANITY, EPILEPSY, IDIOCY, AND FEEBLE-MINDEDNESS.*

BY SAMUEL BELL, M. D., NEWBERRY, MICHIGAN.
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[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

JUST how far syphilis is responsible for insanity, epilepsy, idiocy, and feeble-mindedness, is a question of great importance. We have about 3,700 insane cared for in state and county institutions, and a rough estimate gives over 3,000 feeble-minded scattered throughout the state.

In looking into the etiology of general diseases, we are always on the alert for a syphilitic history, either immediate or remote. Consequently since assuming control of the Upper Peninsular Hospital I have been seeking for cases of syphilis as a cause of insanity, and also consulting literature on the subject. The foreign as well as American authorities have not given us as much definite information upon this subject as upon other pathological conditions of the body. It is conceded that syphilis is an important etiological factor in certain forms of insanity. There are cases in which the effect is purely psychical with no physical condition to warrant the mental aberration; there are histories of other cases of insanity, of acute mania, and of melancholia in which evidence of syphilis has been demonstrated, and in which antisyphilitic treatment has been employed with amelioration of the mental condition.

A large percentage of cases of acute insanity pass into chronic dementia and resist all forms of treatment. Clinically, it is not always possible to make a sharp distinction between syphilitic dementia and paretic dementia proper, for syphilis plays an important role in the etiology of the latter affection. SNELL claimed that seventy-five per cent. of the cases of paretic dementia coming under his observation were due to syphilis. **Erb** claims the same percentage with regard to locomotor ataxia. Other authors find a smaller proportion of syphilitic paretic dements than **Snell**. **Mendal** found that of 201 patients, 117 were syphilitic, and **Ripping** could only detect a syphilitic element in about twelve per cent. It is to be borne in mind that the mere co-existence of syphilitic taint does not prove a given form of insanity to be syphilitic; but the fact is significant that, of all syphilitic lunatics, one-half are paretic dements, or suffer from the allied forms of diseases we are now considering. **Spitzka** finds syphilis an etiological factor in the production of various forms of progressive dementia in about one-third of the cases among the pauper insane of New York. Its existence could be determined in fourteen per cent. of the paralytic patients in private practice. Of these eighty per cent. had typical paretic dementia and the remainder the true syphilitic form of dementia. Numerous attempts have been made to establish some criterion on the strength of which to be able to distinguish syphilitic from typical paretic dementia, but the deductions do not always hold good. Thus it has been supposed that the association of true locomotor ataxia with paretic dementia proves the syphilitic origin of the case. But there are nonsyphilitic tabetics who become paretic dements, while there are syphilitic dements who are not markedly tabetic.

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* Read before the UPPER PENINSULAR (Michigan) MEDICAL ASSOCIATION.

The role which syphilis plays in relation to the causation of insanity opens up a very important field for study. Some years ago the subject was up for discussion in one of our national medical associations and various opinions were given. It was apparent at that time that investigation along this line had not been so thorough as in other forms of disease. There is one great drawback to the study of psychological diseases in patients after they are received into an asylum or hospital for the insane. The amount of information accompanying them as to their previous history and condition of family relations is so meagre that the hospital authorities are handicapped in a large number of important cases in placing the diagnosis and treatment upon a proper foundation. The information obtained from the patient is, as you are aware, unreliable, and knowledge of an etiological nature depends largely upon observation and what can be gathered under difficulties. No doubt there are many cases of a mild type of insanity due to syphilis and which take a form of melancholy and acute mania, and could an early diagnosis be made by experienced clinicians in the early stage of the disease we believe that many more cures could be recorded.

Mr. B. G., aged forty years, was admitted to the Upper Peninsular hospital on January 23, 1896.

Previous History.—The patient says that five years ago he had a chancre and was treated for the same a month before it healed. Five months after he had a sore throat and his teeth became loose at that time. The throat and mouth were sore for about three weeks. He says that he never had any eruption on his body, and the appearance of his skin apparently substantiates this statement. There had been no loss of hair. Two years ago patient became depressed so that he would not notice his friends; in fact would shun them. About that time he wandered away into the woods and was found two or three days later, having been without food. He was placed in jail, but confinement seemed to increase depression so that in two or three days he was discharged. A few months afterward the same symptoms and treatment were repeated. Since the first attack his friends had noticed a slight depression. Two weeks previous to his admittance patient again wandered away into the woods and was found in an exhausted condition. He was again placed in jail but it was almost impossible for the sheriff to induce him to take any nourishment. He was therefore committed to the Upper Peninsular Hospital.

When admitted patient's physical condition was considerably debilitated. The heart's action was enfeebled by abstinence from food, and a condition of great mental depression obtained. The patient was very quiet in demeanor and readily conformed to the discipline of the institution. A good deal of trouble, functional in character, was experienced in passing urine. Already very slow in movement, his gait gradually became impaired until it was almost impossible for him to get around without the aid of an attendant. On April 1 he was placed in bed. About March 15 a slight paralysis was noticed on the right side of his face which gradually progressed to completion by the time he was placed in bed. The paralysis involved facial and auditory nerves, the muscles of expression on the right side of the face being totally paralyzed, and the hearing sense of the right ear entirely destroyed. The sense of taste and smell were impaired but the patient claimed that these conditions existed for five years and resulted from a foul and apparently long standing rhinitis which still exists. The sight was somewhat affected and everything appeared blurred to vision. The pupils were dilated for a time; reaction slow and unequal, the right contracting slower than the left. Some days they were noticed to be unequal, the right being markedly dilated. The reflexes were exaggerated from the time of his admission. The appetite had failed up to April 1 and the patient had lost a good deal in weight. At the time of admission to the hospital the dynamometer registered 40R 35L, and on April 1 30R 25L, differences accorded to his weakened condition. Before going to bed the patient's right leg assumed a dragging and slightly abducted position, but sensation of the limbs was not impaired.

He was placed on a general tonic with no apparent result. On March 20 antisyphilitic treatment was adopted, the preparation consisting of one sixty-fourth grain of bichloride of mercury and eight grains of iodide of potassium in the syrup of sarsaparilla. He became almost helpless in bed, and remained in this condition four or five days, when he began helping himself, going to the closet unaided, et cetera. Appetite improved also. At the end of a week he abandoned the bed, saying he had not felt so well for a long time. He seemed very active after getting out of bed, his former complaints of headache and bladder difficulty entirely disappearing. He took daily exercise out of doors. His gait was uncertain at first but he gradually became stronger so that he could get around very well. At the present writing, which is three months after the attack, the improvement which has been steady is great, but he is still under treatment, taking the bichloride and iodide daily. Frequent analysis of the urine failed to reveal anything of significance.

Mrs. P. K., aged fifty-eight years. Nothing is known of her previous history, but the supposition is that her character was questionable. Her daughter is a prostitute. The patient was received in a maniacal condition on June 7, 1895. She required constant watching to curb her filthy habits and prevent her from exposing her person, the latter trait being especially prominent in the presence of strangers. When left alone she would smear feces over her face and head then rub it on the wall and furniture. She was extremely noisy night and day, screaming, singing, crying, and laughing alternately. She was in every kind of mischief, very devilish in her acts, and destroyed clothing, furniture, windows, or anything breakable. She had a ravenous appetite. She would expectorate in one's face or on one's clothing as impulse prompted.

About December 1, 1895, patient commenced having furuncles form on different parts of her body. These increased in number and vigor regardless of internal medication. Free use of the knife and antisepsis were employed until the latter part of the following February, when they apparently succumbed to the treatment. Eleven of these furuncles, the location and character of which I will briefly describe, were subjected to surgical interference. One was situated in the right groin; one on the aspect of the right thigh; one just over the left trochanter major; one in the right inguinal region; one near the umbilicus; one over the right ilium; one on the left knee; one on the left elbow; one over the spinous process of the right scapula; one over the apex of the right scapula; one in the right lumbar region. The three latter were very large abscesses, involving skin and deeper tissues, and probably aggravated by patient's persistence in lying on her back. Severally they started as small inflamed papules, the base developing rapidly and becoming greatly indurated. A week after the papules were noticed there had developed a large indurated mass studded by a few pustules which connected with the suppurating deeper mass. When incised early the smaller ones would heal rapidly without sloughing of adjacent tissues.

The healing process in both large and small furuncles was surprisingly rapid considering the impossibility of keeping a clean dressing on any length of time in consequence of her filthy habits. The large ones on the back were sloughing abscesses, the skin and deeper tissues sloughing out clean according to the size of the induration. The largest one was two and one-half or three inches in diameter. After the occurrence of suppuration there was left a clean granulating surface which cicatrized quite rapidly. There were numerous small pustules all over the body, but they did not demand special attention. There was a marked amelioration noticeable in the patient's mental excitement after the development of the furuncles. They were necessarily a source of considerable pain but this was controlled largely by frequent changes of dressings, keeping the patient in a comfortable position, and the administration of anodynes when necessary. Patient failed physically very rapidly from the date of commencement of boils.

About April 1 she was placed in bed a sufferer from debility. Her appetite suddenly failed on account of vomiting which could not be controlled to any extent to the time of her death. There was noticeable a slight temperature at this time ranging from 99° to 100°. The pulse ranging from 90 to 100. There was slight diarrhea at times. The only nourishment she was able to retain consisted of milk and whisky which was given, notwithstanding the closest attention to these details, at regular intervals. The temperature gradually increased to 103°, this being the highest indicated. The pulse became weaker and more frequent. There was less nourishment taken each day and a general decline of physical power was apparent until April 27, when the patient died. A few days before death she coughed considerably and expectorated quite freely.

POSTMORTEM EXAMINATION TWENTY-FOUR HOURS AFTER DEATH.

Head.—The skullcap was removed with little difficulty. The dura matter was slightly adherent and cerebral pressure diminished, the dura lying in folds over the cerebrum and adherent to the pia mater on the right side of the longitudinal fissures. The pia mater was considerably congested otherwise from external examination the brain appeared normal.

Abdomen.—The peritoneum presented a normal aspect. A hard nodular tumor was found in the epigastric region just to the right of the medium line, involving the tissues of the duodenum about five inches from its pyloric end, and having in its meshes the bile duct and ducts of the pancreas. It had lessened the lumen of the duodenum only slightly

Kidney.—A large cyst about four or five inches in diameter was attached to the left kidney. It rose from the cortical substance on the superior surface, entirely obliterating this tissue and the suprarenal capsule. The other organs of the abdominal cavity were apparently normal.

Thoracic Cavity.—The left lung was contracted about one-quarter its normal size and firmly adherent to the thoracic wall. All vessels were almost entirely obliterated. The right lung was slightly contracted. Plural adhesions obtained over the whole surface. The external surface was rough and studded with pustules. Tubercular deposits were present throughout the entire lung substance.

Heart.—The walls and valves of this organ presented a normal appearance.

Microscopic examination of the kidneys showed degenerative nephritis. The heart had taken on degenerative changes. The lung substance had not hardened sufficient at this writing to permit the cutting of sections, but it is safe to say that they are full of tubercles. We have only been able to make a macroscopic examination of the brain, owing to insufficient time since the postmortem examination to properly prepare the cerebral textures to cut into sections, but we are of the opinion that organic changes have occurred in the cells of that organ to account for the psychological derangement.

While the postmortem demonstrated the immediate cause of death, the connection between the mental and the pathological condition is certainly very interesting, and had we not made the examination after death we would never have known of the varied diseased conditions which obtained within this body.

TRANSACTIONS.

DETROIT MEDICAL AND LIBRARY ASSOCIATION.

STATED MEETING, APRIL 27, 1896.

THE PRESIDENT, ERNEST T. TAPPEY, M. D., IN THE CHAIR.
REPORTED BY WILLIS S. ANDERSON, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR W. P. MANTON read a paper entitled "The Surgical Treatment of Uterine Fibroids." (See page 451.)

DOCTOR METCALF: In order to discuss this paper of DOCTOR MANTON'S properly I should be able to present reports of many cases to demonstrate the advantages of any change in the detail of method to which I may refer. I am unable to do so, however. No mention was made in the paper of the benefit derived from curettement which gives time to build up the constitution of the patient with a view to the major operation of removal, nor is mention made of incision of the membrane covering small submucous fibroids. Suppuration frequently presents in the tumor subsequently, however. The method of ligating the uterine arteries by which DOCTOR MARTIN, of Chicago, has recently reported a number of cases, seems to me illogical. Subperitoneal and intramural growths near the peritoneal surface may be excised. The vaginal dissection method, which has not been much written about, I consider safe and applicable to small fibromyomatous tumors. I wish to exhibit here a specimen which I removed in Sarnia last Wednesday by this method. The patient was fifty-seven years of age and suffered from pressure and reflex symptoms, also from metorrhagia. I dissected upward as far as I could, then with tenacula pulled the anterior part forward and with the scissors split the organ in two. One half was then brought down at a time, turning the fundus downward through the anterior incision and dissecting it from its broad ligament attachment. The tumor is six inches long and nine inches in circumference. At the completion of the operation the patient's pulse was seventy-five to the minute. I heard on Saturday that she had no elevation of temperature, and was doing well in every respect. In the whole operation I found it necessary to use only one ligature. The method of morcellation is rather tedious and applicable to much larger tumors. I saw PEAN, last summer, spend one and three-quarter hours removing a fibroid by this method. If the growth be low in the pelvis I think it advantageous to dissect upward from below as far as the internal os and pack the incision with silk to stop oozing, then, putting the patient in the Trendelenburg position, make an abdominal section. The broad ligaments may be held up by T-forceps, the ovary and tube dissected from their attachments, the ovarian artery ligated below the entrance of the tube, the dissection carried downward to meet the dissection from below, forceps being put upon spurting points (you may not find any), and the same procedure carried out upon the other side. The peritoneal edges are then approximated with a continuous catgut suture from one side of the pelvis to the other. The advantages of this method are that no tissue is crushed needlessly, thereby impairing its nutrition. There are no raw surfaces left in the abdominal cavity to which adhesions may form. I think it an ideal method. I have removed fibroids by all these methods, and I believe that each may have its place. This, as in every other department of surgery, should not be carried on in a routine way.

Doctor Longyear: The method which the doctor speaks of as being the one he has generally pursued, it seems to me, is rapidly becoming obsolete, that is, the method of removing the tumor by celiotomy or extraperitoneal fixation of the stump. I think this a barbarous method of surgery that should be relegated to the past, now that we can employ other methods which are better in every way. As he says in his paper, when we can make a clean amputation of the tumor after ligating the uterine arteries and then sew up the parts, accurately covering them over with a layer of peritoneum and so leaving nothing raw or open in the abdominal wound, that, to my mind, is the ideal surgery in these cases. I believe the method spoken of by Doctor Metcalf is the proper one to be pursued when the tumor cannot be reached readily from below; that is, the vaginal liberation of the cervix, and if necessary, tying of the uterine arteries, dissecting upward from below as far as possible, then finishing the operation through the abdomen. In large tumors this method is applicable. In these cases it is sometimes not necessary to remove the cervix. It also seems to me that the removal of the tubes and ovaries by this dissection method is perhaps carrying the operation farther than is necessary. As Doctor Manton said in his paper, I do not believe in operating upon all cases of fibroid tumors. I think there are small fibroids that do no harm whatever, and others, while they are doing some harm, can be tided along. Women at the menopause who are suffering from fibroids can be tided along until after that period has passed and will get along very well without an operation.

Doctor Maclean: In regard to the subject of uterine fibroids, and the interesting discussion to which we have listened, one or two ideas occurred to my mind as being worthy of mention here. For some time it has been a pretty universally accepted doctrine that when a tumor is found in a living subject, even supposing it to be apparently nonmalignant, it is good surgery to advise its removal. The tendency of some nonmalignant tumors to degenerate into malignant growths affords cause for excision that is accepted as a general law in surgery. One strong argument in favor of the removal of fibroid tumors, even although they are not disturbing the patient very much, is the danger of degeneration into malignant disease sooner or later, and that fact should be kept constantly in mind. So far as my own belief goes, I fully agree with the author of the paper and with what Doctor Longyear has said, that we should not feel bound to subject every woman who comes to us with a fibroid tumor to an operation as we would do in the event of an epithelioma of the lip or carcinoma of the breast. There is no excuse foi delay in these cases. It is oftentimes a grave question whether to submit a patient to the ordeal of an operation, and in many cases of fibroids I think we are justified in indulging in a certain degree of hesitancy, and even in sometimes postponing or declining to operate at all. I have known, and no doubt every one of you who has been watching and studying the progress of abdominal surgery and of surgery in general has known, of patients who had fibroid tumors and who nevertheless enjoyed good health for a great many years and died eventually of some other disease. I have a case in mind of a woman ninety-five years old who has been a sufferer from a very large fibroid tumor of the uterus for forty years. She is alive and in good health today. In the Royal Infirmary in Edinburg there was a Mrs. Porter who, for upwards of forty years was a nurse in the surgical ward of the hospital and who, during all that time had a large fibroid tumor, and she went down to her grave with her fibroid unoperated upon, and that woman lived as active and useful a life as any woman could possibly. I agree with Doctor Longyear's remarks as to the abandonment of the clamp operation by extraperitoneal fixation of the stump, and unless there is some special reason I believe that the vaginal operation should alone be resorted to.

Doctor Carstens: The subject has been pretty well covered, and I have very little to add. The paper by Doctor Manton contemplates the usual technique employed, but, as DOCTOR LONGYEAR says, today that operation is not performed so much, and I think for good reason. I believe the patient gets along the best by total extirpation of the uterus. There is another side to this question, and that is whether in all cases it is a good thing to remove the cervix. If you remove the cervix you produce contraction and puckering of the vagina and the result would be a very short vagina. In a young woman that is a very decided objection, and in such cases it is a great deal better if the cervix remain, and hence in operating I try to leave the cervix, removing simply the uterus, making my incision just above the internal os. There are other cases in which there is danger of malignancy developing and in those the cervix should be removed. In some cases in which the tumor is not large I think the method mentioned by DOCTOR METCALF is the best, namely, removing it by vagina. You can remove quite a large tumor through the vagina. The tubes and ovaries must of course be removed. Almost every surgeon has his own technique. KELLY's method is a good one, still I do not think it differs very much from most other methods. I cannot see the point of DOCTOR MACLEAN's remarks. It is a fact that women with fibroid tumors of the uterus will sometimes live to a good old age. I know they do. I know a woman in this city who has a fibroid tumor as large as my two fists, leading people who are unacquainted with her into the idea that she must be pregnant, and she has had it for the last ten years; but that is the exception, and I have seen during that time half a dozen women with fibroid tumors die solely from the effects of the tumor. I have seen a number of fibroids undergo degeneration and the patients die simply because they were not operated upon as they should have been. I think the proper thing to do is to regard a tumor as a serious matter whether it is on the skin, on the neck, or in the uterus, and the right place for a tumor is in a bottle of alcohol. I do not think DOCTOR MACLEAN will take any chances which only appear to be warranted by a rare and isolated case. That woman in Edinburgh is talked about all over the world and is an isolated example. I do not say every tumor ought to be removed. If a woman is just at the change of life, and there is not much hemorrhage, you can give her a chance for a year or two and see if the menopause will effect a cure, and if not then remove it. If the woman is young and the menopause will not occur for the next ten or fifteen years the only way to do is to remove the growth at the time. Mention was made of DOCTOR MARTIN's method of operating. I desire to say that it is not MARTIN's method at all. It is DORSETT's method.

DOCTOR MACLEAN: I want to say a word with reference to the remarks of my friend, DOCTOR CARSTENS. He is at perfect liberty to make me the subject for such a display of wit and eloquence and want of logic, as he has done on this occasion, providing he invariably concurs in the views I have expressed on the subject.

DOCTOR LONGYEAR: I had a case recently which proved the correctness of DOCTOR CARSTENS' claim in regard to shortening of the vagina. Five months ago I removed the uterus from a patient for carcinoma, and I examined the woman a few days since and discovered that the vagina was hardly two inches in length.

DOCTOR McGRAW: The question of removal of fibroids seems to me to be a relative one—which is the most dangerous, the tumor or the operation? You have an operation on the uterus which is not devoid of danger, and you have a tumor which, notwithstanding my friend DOCTOR CARSTENS, is not so dangerous. I have seen a great many women in which the tumor has undergone contraction and gradually diminished in size. The difficult question to determine is whether a tumor shall be operated upon or not. As I said before, you have a tumor which has a certain danger attached to it, but not an excessive danger, as I look upon it, and you have an operation which has a good deal of danger even in the best hands. Now, the question is, will you submit that woman to an operation, or will you take the chances of that tumor remaining innocent during all the woman's life?

STATED MEETING, MAY 4, 1896.

THE PRESIDENT, ERNEST T. TAPPEY, M. D., IN THE CHAIR.
REPORTED BY WILLIS S. ANDERSON, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR FRANK B. WALKER read a paper on "Chronic Gastritis." (See page 455.)

DOCTOR STEINBRECHER: My experience with the stomach tube has been satisfactory; but I do not believe in the Turk method, especially in the use of sponges. I believe in the use of hydrochloric acid and pepsin in addition to the tube in suitable cases. I attribute the beneficial action of lavage to the tonic action on the mucous membrane of the stomach, as well as to its cleansing effects.

DOCTOR JENNINGS: I have found the tube many times disappointing, and occasionally patients would not submit to its use.

DOCTOR FLINTERMANN: I think the double tube exhibited by the essayist would often fail to remove the mucus from the stomach. I would call attention to the relation of chronic gastritis to other diseases, as tuberculosis, cardiac and certain nervous diseases, and the uselessness of the tube in these conditions.

DOCTOR DOUGLAS: I have found that patients object very strongly to the use of the tube; but in some cases my results were excellent, especially in those cases in which too much food has been introduced and not properly digested.

DOCTOR MULHERON: I wish to direct attention to these valuable agents that would take the place of the tube, namely, dilute hydrochloric acid and bismuth subnitrate, and the infusion of columbo.

DOCTOR DELOS PARKER: My experience with the tube in private practice has been unsatisfactory. I rely on hot water, the alkalies, cool baths, et cetera.

DOCTOR MINER: I have obtained benefit from the use of the stomach tube in certain nose and throat diseases accompanied by a foul breath, dependent upon the stomach. I use hot water and boric acid for the washings.

DETROIT ACADEMY OF MEDICINE.

STATED MEETING, APRIL 14, 1896.

THE PRESIDENT, W. R. CHITTICK, M. D., IN THE CHAIR.
REPORTED BY W. J. CREE, M. D., SECRETARY *pro tempore.*

DISCUSSION OF PAPERS.

DOCTOR METCALF read a paper entitled "The Treatment of Abortion." (See page 453.)

DOCTOR BIGG: It is a very important subject to physicians. I have been sadly impressed with the growing prevalence of the crime of abortion. We, as reputable physicians, should take a stand against the crime. It may be difficult to prevent it, but there should be no question of our attitude toward physicians who practice the crime. I am decidedly prepossessed in favor of the immediate removal of the uterine contents as soon as convenient or possible. All my cases have resulted favorably, and I have never used any instrument but the finger to remove the uterine contents.

DOCTOR WINTER: I would like to ask **DOCTOR METCALF** if he used suppositories containing twenty-five grains of iodoform.

DOCTOR METCALF: Yes.

DOCTOR WINTER: I have been in the habit of using seven and one-half grains. I remember one case in which fifteen grains produced poisonous effects. Possibly the swabbing out of the uterus with carbolic acid and tincture of iodine (Churchill's) prevents the absorption of the iodoform, but to apply this to an abraded surface, I would consider it dangerous. I use the finger to remove secundines and find it safer and more certain than the curette. I saw a case in which the curette was pushed through the fundus uteri and the patient recovered. I find after these cases are apparently well there is sometimes a tendency to flowing, and in such I prescribe egotine and sulphate of quinine.

Doctor Maire: I cannot but contrast the treatment of recent years with that of the past. I used to saturate a sponge with vinegar and place it against the os. In a few cases the sponge was removed, followed by the secundines. No particular antiseptic treatment was used excepting carbolized douches. I believe the percentage of recoveries were as good then as at present, and statistics would show it. Nature will often do safely what instruments in the hands of the unskilled will fail to do.

Doctor H. W. Jenks: I was taught that when the fetus was putrid or a finger had entered the os it was a good plan to irrigate with hot bichloride douche —temperature 110° to 114°, strength 1-4000. I do not think this procedure can do any harm. I show you an instrument made of block tin, that can be twisted in any shape, and attached to the screw end of a Davidson syringe. This is very useful for irrigating the uterus.

Doctor Williamson: I have never interfered actively in these cases, but feel that the immediate removal of the uterine contents is the best plan. Books and speakers say it is an easy matter to clean out the uterus with the finger. I do not find it so. I would not prefer a sharp curette, but would use a blunt one.

Doctor Sprague: I use viburnum prunifolium and morphine to prevent abortion if possible. I believe in the antiseptic treatment. If any portion of the products of connection are left in the uterus there is danger of sepsis. I have found no great trouble in using the finger. I sometimes use chloroform and this makes it easier to depress the uterus. I prefer boric acid solution instead of the mercurial. I consider it safer and just as efficient.

Doctor Bailey: I always remove the secundines as soon as I think it wise. I use the finger or forceps, but use the forceps in preference to the finger. I have had no difficulty in using them, and think there is no danger to the uterus by their use. I wash out the uterus with a mercurial solution, 1-5000. I place the patient on ergot and quinine. I think there is no need of using a curette when the forceps are used. I prefer the kind designed by Doctor Longyear.

Doctor Cree: Unlike Doctor Sprague, my experience with viburnum prunifolium has been negative, but possibly nothing could have helped the cases. I do not remove the uterine contents in all cases immediately. I sometimes wait a few hours using the tampon, and then removing with finger or forceps, preferably the finger. I have not used the forceps devised by Doctor Longyear, but consider them the best. Have had no difficulty in the majority of the cases in cleaning the uterus with the finger. A pill of egotine, nux vomica and quinine is given for a couple of weeks. I think that the immediate removal in *all* cases is not good practice. I prefer to wait for a few hours when the secundines may be loosened up, the os dilated or easily dilated, and the finger can usually clean out the uterus in a satisfactory manner.

Doctor Chittick: When the membranes are unruptured I wait; when a criminal abortion, I relieve the uterus as soon as possible.

Doctor Metcalf: I have used the finger to remove the secundines in ninety-five per cent. of my cases, and have never seen bad symptoms from iodoform on a raw surface.

STATED MEETING, MAY 12, 1896.

The President, W. R. CHITTICK, M. D., in the Chair.
Reported by C. W. HITCHCOCK, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor W. J. Cree read a paper on "Constipation." (See page 450.)

Doctor Emerson: The subject is as old as Adam, an important one, and the condition is extremely frequent. The conditions of our civilization predispose to constipation, especially the lack of exercise of activity. Here, I feel confident, the bicycle will and should prove a blessing. One remedy which the essayist did not mention and which I have found of value, especially when there is deficient biliary secretion, is the Carlslad salts, alone, or with phosphate of soda. Various hygienic measures are of value, especially regular bathing, followed by vigorous friction.

DOCTOR MANTON: I believe our pernicious school system with its cramming processes has a most deleterious effect in encouraging and predisposing to constipation. The faradic current has proved with me an efficient method of stimulating the bowels to better action, placing one pole in the rectum and the other pole passed over the abdomén, following the course of the large bowel. In a few cases, when I have thought it indicated, I have thus used the Galvanic current, placing the negative pole in the rectum.

DOCTOR CONNOR: The constipation in those nearing middle life is well worthy our attention. The active boy and athletic young man finds in his exercise ready stimulus for proper bowel action; but as he nears middle age, the opportunities for physical exercise are less at hand, and the system becomes readily overloaded. If exercise were better kept up and more assiduously attended to, I am sure that many if not most of the diseases of middle life would be materially lessened. Fat is accumulated and the blood surcharged with products, which exercise would eliminate, preventing arthritic and gouty troubles, uric acid conditions, et cetera. Many ocular changes might be prevented by proper exercise. A man taking little physical exercise should indulge but sparingly at breakfast and luncheon, leaving his heavy meal of the day for an hour of leisure in the evening. Much good could be done and many ills prevented by proper attention to exercise. The fault with college athletics is that muscular tissue is excessively developed and habits formed which cannot be carried along through life. The bicycle may be helpful but the riders will probably ride a few months and pay little or no attention to exercise the rest of the year. This is evil. Exercise should be kept up. Though not an Episcopalian, I think we should all be better off if we kept Lent. I have been personally a victim of too little exercise, and also in my especial line of work I continually meet illustrations of the evils of much eating and little exercise and the ills naturally consequent.

DOCTOR CARSTENS: It seems to me that eating of fruits has been too little insisted upon. I agree with DOCTOR EMERSON as to the benefits of the bicycle. I disagree with DOCTOR MANTON as to the evils of our school system. The hours are not so onerous as to encourage constipation, if any adequate attention is paid to the matter. As to the habits of men and boys, it is undoubtedly the fact that boys eat more than men. The adult male cannot eat as he did when he was a boy. The lack of exercise cannot be too much insisted upon. People take a car to ride three blocks and are getting so lazy that bye and bye they will take a car to ride half a block. Many other troubles, of which patients are the subjects, encourage constipation. Those remedies which encourage peristalsis and proper secretion are the natural and proper remedies, but tonics are also needed to establish a proper condition.

DOCTOR W. J. WILSON: The nervous, muscular, and secretory organs are of course largely at fault and we must not be too routine.

DOCTOR BIGG: We shall of course always meet these troubles. As to the treatment we shall always have to give medicines. The victims are the young and old. These patients are sometimes aroused to more active attention by impressing upon them that they are becoming vehicles for decaying fecal matter. As to remedies, the cases must, in a measure, be laws unto themselves. Sulphate of iron in proper combination with other sulphates is of great use in many cases needing tonic treatment. My faith in electricity is much shaken, though undoubtedly some stimulation may be thus imparted. I believe the benefit resulting comes largely through relieving spasms of the sphincter ani.

DOCTOR HOLMES: May I not go back to the children and save them from errors of diet which encourage constipation? The formation of a ptomain and consequent poisoning, it occurs to me, may act like opium in producing and encouraging constipation. Lack of attention on the part of the child, timidity and bashfulness also conspire to keep up the trouble with children, as well as in some adults.

Doctor H. D. Jenks: I have lately read that dogs are very constipated and that ready expulsion is secured by the peculiar position into which they get, enabling them to exert all the expulsive forces. Can we not learn something from this which may benefit our patients?

Doctor Chittick: I note that senna is an ingredient of almost all the vaunted proprietary remedies. I meet with many cases of constipation among hospital patients. My best remedy in these cases is to give a level teaspoonful of Epsom salts in one-half glassful of water every hour until the bowels move, and this usually occurs before the tenth dose is administered.

Doctor Manton: It seems to me that we must treat these cases each one on its merits. As to our school-cramming methods, I maintain that in a growing girl any special directing of the blood to one part is apt to make some other part suffer. This is susceptible of proof, I think.

STATED MEETING, MAY 26, 1896.

The President, W. R. CHITTICK, M. D., in the Chair.

Reported by C. W. HITCHCOCK, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor Irwin H. Neff read a paper entitled "A Few Remarks on Neurasthenia." (See page 445.)

Doctor Emerson: There is a "red rag" in the paper which I, as a Taurus, discern. I refer to the ascription of the origin of neurasthenia to Beard. I informed Doctor Beard of the priority of Doctor Van Deusen's paper written prior to 1869 and published in that year. I hold in my hand the article of Doctor Van Deusen who was then medical superintendent of the Michigan Asylum at Kalamazoo. I have long queried whether we really ought to call neurasthenia a disease. Of course it is a disease in the sense that it is a morbid condition; but I question whether we can really with true propriety characterize the condition as a disease. I do not care to add much to the doctor's full description, but I notice the doctor's reference to the hereditary type. It occurs to me that often we shall have it impressed on us that all cases are hereditary or that we shall find other or similar conditions in other members of the family.

Doctor Inglis: I can only supplement what Doctor Emerson says and emphasize the importance of separating the patient from other members of the family. I have it impressed upon me that it is not so much severe intellectual strain as emotional strain which breaks these patients down. This strain of the emotions in lessening inhibitory power forms, too, a most excellent foundation for traumatic neurasthenia. I recall an instance where an engineer by great effort stopped his engine within four feet of another engine, arrested a collision, suffered no traumatism whatever, and yet inside of forty-eight hours developed typical symptoms of traumatic neurasthenia, due, of course, to the shock from the terrific emotional strain. I think a large proportion of these patients, while they never perhaps recover their former vigor, yet they reach a point where they can adjust life on a new, perhaps a lower basis. This is the sort of recovery they more usually make, I think. Both in hysteria and neurasthenia I regard the getting of the patient away as most important. The personal element on the part of the physician is most necessary. A physician without enthusiasm can never cure such a patient. The work is taxing and tiring to the physician. As to medication, the error too frequently fallen into is to give these patients sedatives, to which they take all too kindly. The seemingly paradoxical plan of stimulation and sedation is better.

Doctor Connor: I seldom see these patients in the very early stages. An extravagant expenditure of nerve energy has usually gone on in those patients whose trouble is due to or coincident with serious ocular defects. The saving of this waste of energy does much toward putting these patients on a better plane for recovery. Attention to all other functions, digestion especially, will do much toward putting these patients upon the right path. With the condition of our American civilization, when the general tendency is to get above our proper plane and get ahead of every one else, we shall probably always have neurasthenia. The same condition fills our asylums, crowds our poor-houses, and will continue while all are working for the unattainables, perpetually discontented.

Doctor Bigg: I think the general practitioners are tonight especially favored.

Doctor Robbins: I am reminded of the politeness of our Academy. Some time ago we agreed with an author of a paper in speaking of neurasthenīa. Tonight we agree equally in saying neurasthēnia. The former has, I believe, the weight of good authority. I have been interested in these cases because of my knowledge of some cases—two cases I think of, of two college girls. One graduated, one could not. The college work is insufficient of itself to break down any girl. The individual element in the physician of course comes largely into play.

Doctor Manton: I am always glad to learn all I can of these cases, with which I have had some little experience. I have seen a number of cases in young girls who, coming from boarding schools, have starved the local organs and laid a foundation for a neurasthenic condition. I have found no one treatment sufficient. Rest, massage, electricity, and other measures have all largely contributed to results attained.

Doctor Sprague: Of all subjects I think this one is calculated to give us opportunity for study and investigation. I have found these cases frequently in school-teachers, and should consequently disagree with **Doctor Inglis**, as these teachers are forced to make large expenditures of nervous energy and mental force. As to the physician, I think his success often depends on the belief he succeeds in inspiring that he will eventually relieve and help his patients. He must be firm and nonvacillating in his belief.

Doctor Hitchcock: I question if there are not cases close to the border land between neurasthenia and melancholia and which may eventually end in a true melancholia. I am also impressed with the multiplicity of factors with which we have to deal and the necessary importance of individualizing in treatment. Each case is largely a law unto itself.

Doctor Chittick: I disagree with **Doctor Inglis** as to the disease not being due to overwork. I have such a case on hand now. I do not believe in giving opium or alcohol in these cases. I use the vegetable sedatives cypripedium, sumbul, scutellaria, et cetera.

Doctor Neff: **Doctor Dercum**, in the "American Text-Book of Nervous Diseases," gives **Doctor Van Deusen** full credit for first writing upon and first using the term neurasthenia.

CLINICS.

HARPER HOSPITAL.

EXTRAUTERINE PREGNANCY.

Service of H. W. LONGYEAR, M. D., Detroit, Michigan.

Mrs. F., aged twenty-five years; married five years next August. She entered Harper Hospital January 14, 1896, and gave the following history:

She menstruated at fourteen years of age, which menstruation appeared regularly until the patient was attacked with la grippe five years ago, when it ceased for several months, coming on again soon after marriage. The patient said she has never, to her knowledge, been pregnant, but later her family physician gave a history of her having had a miscarriage, pelvic inflammation, and an abscess which was drained through the vagina, this occurring shortly after marriage. After this the menstruation remained regular until September last when they ceased until the latter part of November. The patient began to have symptoms of pregnancy when menstruation ceased. In October she began to have sharp pains in the right ovarian region. She has had fever occasionally, and has been confined to bed nearly all the time since October. Menstruation the last of December "seemed natural," but she says a small piece of apparently decayed matter came away. Has had, at times, a bad smelling discharge.

Physical examination shows dullness on percussion over the pubes and two inches above and to the right half way to the crest of the ilium. The cervix is small and soft. Bimanual palpation elicits a uterus seemingly small, retroverted, and to the left, with a mass to the right and front thereof, extending nearly to the crest of the ilium, and above nearly to the umbilicus, but it does not cross the median line. Diagnosis: Extrauterine pregnancy, without rupture.

I performed an operation at Harper Hospital January 17, 1896. The tumor was irregular, and had to be separated from strong adhesions to the omentum and other viscera with considerable difficulty and profuse hemorrhage. The pedicle was tied and the tumor cut away. The bleeding ceased after tying two or three bleeding points. The abdomen was closed without drainage, by buried kangaroo tendon sutures. The tumor, as you see, consists of the distended Follopian tube containing the placenta and fetus intact; the ovary and quite a large blood clot are also seen on the lower part of the mass. The sac contained amniotic fluid which escaped when it was opened. The large blood clot probably caused the death of the fetus, and explains the nonrupture of the capsule, as death of the fetus doubtless took place about the sixth or eighth week of gestation. The patient has done remarkably well thus far.

FOUR ABDOMINAL HYSTERECTOMIES.

Service of J. H. CARSTENS, M. D., Detroit, Michigan.

Mrs. C., aged forty years. She is the mother of eight children, the youngest being eleven years. Her menstruation appeared regularly since the birth of her last child, until the first of December, 1895, when it ceased, but reappeared later and continued to flow more or less constantly until February 4, when I operated for abdominal hysterectomy.

Mrs. W., aged thirty-eight years. Not pregnant. Enlargement of the abdomen has been noticed for about one year, the size having been rapidly increasing during the last two months. Menstruation profuse, with more or less flow for several weeks. I operated for abdominal hysterectomy February 24 and found a soft fibroid.

Mrs. B., aged forty-six years. She is the mother of five children. She experienced distress in the pelvis and enlargement of the abdomen for one year. There was a history of obstruction of the bowels and retention of urine, conditions attributable to hard tumors which filled the pelvis. I diagnosed them fibroid and performed abdominal hysterectomy on January 29.

Mrs. C., aged forty years. She related a history of gradual enlargement of the abdomen, accompanying profuse hemorrhages. I diagnosed fibroid tumor, and performed abdominal hysterectomy on February 18.

FLOATING KIDNEY.

Service of E. T. TAPPEY, M. D., Detroit, Michigan.

L. S., female aged twenty-two years, has had pain in the right hypochondriac region for two or three years. I asked Doctor T. A. McGraw to see the patient in consultation. A diagnosis of floating kidney was made, and on January 9, nephrorrhaphy was performed at Harper Hospital. A straight vertical incision was made in the loin, and the fatty capsule was pulled out through the wound and incised. Three sutures of kangaroo tendon were then passed through the deep edges of the wound and into the kidney to a depth of about three quarters of an inch. The excess of capsule was then amputated and the sutures tied.

The wound was closed by buried suture, also kangaroo tendon. I followed **Morris** in the use of kangaroo tendon. Some surgeons use silkworm-gut and some silver wire, and the choice of suture material is an interesting point. The tendon I used had been chromicized, and I concluded it would last until adhesion should be formed.

The wound has healed by first intention and the patient's temperature has been normal. I have been interested to note that there have not been any evidences of shock as one might naturally expect who had not studied the subject.

EDITORIAL ARTICLES.

THE WIDENING OF SCIENCE.

The vivifying influence proceeding from the consolidation of certain fixed principles in science was admirably exemplified in **Professor Michael Foster's** Huxley lecture. The theme on which the lecturer mainly dwelt was the complexity of the progress of science and the intricacy of the bearings of a single scientific observation. The effect of any scientific observation does not depend alone on its intrinsic merits but upon its bearings, and the way in which it joins hands with its fellows. The power of any new discovery rests on that which is to come out of it, not on that which it is.

In illustration of the potency of these mother ideas, the bearings of certain physiological discoveries made in the days of **Huxley's** studentship were quoted. One of these was **Weber's** discovery that stimulation of the vagus nerve stopped the heart in diastole. What, it is asked, has been the gain of that experiment. Its effects have gone far and wide into the whole of physiology. How the heart was governed by the central nervous system was before **Weber's** discovery a subject of fruitless contention, and it has shown us how the heart may be controlled. But the most far-reaching effect lies, as **Professor Foster** says, "in having started a pregnant idea, that of regarding the phenomena of life as the outcome of opposing and antagonistic forces, now carefully balanced, now swaying on this side and now on that, an idea which has been a guiding light, even if sometimes misused, in our advancing knowledge of the processes of both health and disease, not only in the tissues of the nervous system, but in all those of the body."

The observations of **Claude Bernard** in 1851, when he showed that section of the cervical sympathetic led to fullness of the blood-vessels in the head and face, was also a mother idea having extensive projeny. One has only to recall all that is indicated by the one word "vasomotor" to realize the significance of this event.

So, also the discovery of glycogen had effects which were manifold. It had a direct and immediate effect upon the treatment of diabetes. Far and away beyond these, however, are its ulterior inferences. It was the first great exemplification of the synthetic power of the animal body, and all we now know of "internal secretion" derived its light from the gleams cast by the discovery of glycogen.

It may with equal truth be said that all the modern physiological knowledge of the cortex and its functions is directly traceable to the influence of the **Wallerian** law of degeneration discovered in 1850.

The widening of science thus becomes a process of great complexity, the wave measurements of which bear definite relation to the initial impulse giving them birth.

ANNOTATIONS.

HEALTHY PAVEMENTS.

Whether asphalt or wood will ultimately be selected as the ideal pavement for the streets of our cities will probably be decided on other principles than purely sanitary ones. Researches have recently been made on the microbic infiltration of wood pavements with somewhat conflicting results. Sawdust removed from a hole in a new block pavement gave one and a half millions of microbe colonies for each centimetre, but at a depth of two inches from five hundred to four thousand two hundred colonies. The surfaces of pavements are shown in most cases to be their insanitary parts, but it is not proved that ophthalmia, catarrh or diphtheria proceed more from wood pavement than from asphalt.

IAN MACLAREN.

The visit of **Doctor Watson**, better known as **Ian Maclaren** is an event of much importance to the medical profession. His sketch of "the doctor of the old school" in 'Beside the Bonnie Briar Bush' is one of the most vivid and pathetic in English literature. The members of the medical profession are after all human and like to see their merits recognized, and they know that **Doctor Maclure** is not only a type of the old school, but stands for much that is representative of the modern doctor. The picture of **Doctor Maclure** gaunt, loosely-made and "ill-pitten together," but endeared to all the inhabitants of his hill-side, is one which may often be seen on the roads of our own country. It is to be hoped that the gifted creator of "**Maclure** of Drumtochty" will receive a welcome from the medical profession wherever he goes.

THE MEDICAL SOCIETIES.

The annual meetings of many of the medical societies have been held during the past month. They have all shown a gratifying increase in membership. Industry has been their characteristic virtue. The year's work has in all cases been more than up to the average. The retiring presidents have shown a praiseworthy disposition to cultivate social amenities. **Doctor Tappey**, the retiring president of the Detroit Medical and Library Association, gave a "commers" which was productive of much good feeling. **Doctor Weber** entertained the members of the Detroit Gynecological Society at dinner. **Doctor Chittick** entertained the members of the Detroit Academy of Medicine at dinner. **Doctor Smith** received the members of the Wayne County Medical Society at his home. Altogether it may be said that hospitality, in medical circles, is a presidential virtue which cannot fail to have a desirable influence upon the profession.

CONTEMPORARY.

PERSONAL PURITY.

[THE MEDICAL FORTNIGHTLY.]

Every physician, possessed of the true conception of his calling, must have had thoughts on personal purity, inasmuch as his experience, sooner or later, convinces him of the enormity of immorality, and how much disease is dependent on its universality. Every community, even the remote rural districts, have this canker, the "worm in the bud," eating away at the soul of Humanity. That it is an evil widespread and alarming in its consequences, and one which from early history has been man's worst enemy, and one, too, wholly within his power to abate, we are powerfully aware.

The subject of personal purity, alas, is seldom, if ever, referred to by the parent in his instruction to his child, even Polonius in his precepts to his son, which, indeed, are among the choicest of things good in Hamlet, did not caution him as to keeping his body pure. Saint Augustine, the greatest of the Latin fathers of the Christian church, in his impressions, tells us of the experience in his youth in contact with unholy love, wherein he "was scourged with the iron burning rods," and "was brought to the treacherous abyss" for "desiring to compass a business deserving death for its fruits." He had never been instructed regarding social purity, although a loving mother did much to eventually rescue him from the path of evil he was pursuing. We need not go back in history to speak of the lack of instruction, for I dare say that in ninety-nine families out of a hundred, nothing is ever said on the subject, and when allusion is even made to it, a feeling of shame, of embarrassment, et cetera, is immediately noticeable. This intense false modesty, precludes the instruction on what I consider the most vital subject in the life of the youth, and parents have in many instances but themselves to blame, for the false steps made by their son or daughter. Physicians share in this responsibility, for as advisers of the family, they owe their patrons the duty of forearming the parents with scientific facts, so they can in turn instruct their children. Doctor Howard A. Kelly, a man whose professional attainments and standing place him among the foremost in the medical profession in the world, has in his masterly address on "Personal Purity," delivered before a lay audience in Baltimore, established a precedent for the leaders in medicine to follow, namely, instruct the masses. Doctor Kelly has in this address, published in *The Health Magazine*, given thought on personal purity which we wish we could publish in full, but space forbids. His points, briefly, are as follows:

"It is man who sustains prostitution; if its maintenance was left to the active efforts of women, it would sink into insignificance. Every community is just as pure, or as impure, as the men make it. The instincts of women are for purity and the natural outlet of the affections in family life, and men have to prevent this before they can induce them to become prostitutes. Women prostitutes, as a rule, are from the lower classes of society, where the hope of children does not enter so largely into a woman's life. Men prostitutes, on the other hand, are generally from the higher walks of life, and this gives the foundation to the double standard of morality, which in fact is the cause of much prostitution." Doctor Kelly is opposed to licensing the evil, and points to the revolting experience here in Saint Louis (1870–74) as an evidence of its evil. He says laws regulating vice, condone it, they apply only to one sex, and that to the minority, and such laws are unscientific, because they have proven over and over again that they only aggravate the evil—they encourage indulgence from those who through fear would be more considerate; they are oppressive and unjust to women, and no tax should be levied for the support of a vice that is responsible for the worst crimes against the social order. Again, he thinks the growing recognition of woman will assist to regulate the evil, by opening new avenues for employment of women, and by securing the advantages of training, et cetera. Personally, we believe the greatest good can be obtained by education, and let us have taught to our children in the public school, if need be, the functions of the human body. We legislate to teach the evils of alcoholism in our public schools, but how much more important is it that our children know their own bodies; "forewarned is forearmed."

Drop this eternal, or rather infernal, false modesty and talk about this besetting evil. Doctor Kelly reminds us that the whole length and breadth of our land is interpenetrated with the rootlets of this gigantic evil, and that it is the devil who says: Do not talk about prostitution, it is an improper subject. The righteous man should say instead, I will talk about it, and fight it until it has been destroyed, root and branch. Every man should determine to keep his body in subjection, and resolved to do missionary work in this great cause. It is just here where the physician comes in; he it is who knowing the evils, the dangers from the physical, as well as the moral, is preeminently the one to teach wherever he can, the blessings of social purity. Let us resolve to do this.

WHY MOST PHYSICIANS DIE POOR.

[THE CHARLOTTE MEDICAL JOURNAL]

It is strange, but nevertheless true, that most of the medical profession fail to accumulate anything approaching a fortune, and, sad to say, often die with liabilities far in excess of their assets. No man is less remunerated for the long hours of toil and worry than is the family doctor. He is as a rule, a poor business man, poorer still as a financier and collector. So generous is his nature that he is constantly forgetting to provide for himself and family. Being a poor financier and loose in business affairs, he is constantly being used as a target for the shark to aim at. A scheme is presented to him, he glances over the plans with his professional eye and immediately falls a victim to the statement, "You will get big dividends." He never gives a thought as to what becomes of his principal, and, as a rule, leaves his elephant much worse for the encounter. He is careless about his bookkeeping, and his bills are sent out with appalling irregularity.

What business man would think of buying books, instruments and drugs without in each purchase getting the lowest possible price, and then deducting his discount. The physician buys too readily, and that, for which he has no use.

His social standing requires him to give liberally to the charities, and the constant drain on his purse for the entertainment of his many friends plays no little part in eating up his savings. The doctor is a poor insurer. A physician with a yearly income of four thousand dollars, should carry at least twenty-five thousand dollars in ordinary life insurance at a cost of five hundred a year, or should, if possible, pay twice this sum for a like amount of insurance payable in twenty years. Allow old line insurance companies to play the shark game with you, for then, at least, those dependent upon you will be safe in case you are suddenly taken from them.

Insist on the laity knowing that the physician does not roll in wealth and that he requires prompt payment of accounts just as does the merchant. Let it be posted upon your door: "*The laborer is worthy of his hire.*"

MEDICAL NEWS.

THE DISCOVERY OF ANESTHESIA.

The fiftieth anniversary of the discovery of anesthesia by Doctor W. T. G. Morton was appropriately celebrated at the Massachusetts General Hospital in Boston on the 16th instant. The guests inaugurated the ceremonies by holding a reception in the old operating room, after which they repaired to the Bigelow operating theatre where the public exercises were held. Doctor J. Collins Warren, the presiding officer and grandson of the great surgeon who performed the first painless operation, read telegraphic messages of congratulation from Stockholm and Moscow. Doctor Charles H. Dalton, president of the hospital, delivered an address of welcome. Doctor Robert T. Davis, of Fall River, briefly recounted the steps of the first anesthesia, having been present on that memorable occasion as a student. Doctor John Ashhurst, junior, of Philadelphia, discoursed upon the terrors of surgery and results of operations before the advent of anesthesia. Doctor David W. Cheever, of Boston, enumerated some of the blessings which anesthesia had conferred upon surgery. Doctor John P. Reynolds, of Boston, spoke upon the advantages of anesthesia to the parturient woman. Doctor William H. Welch, of Baltimore, read a paper entitled "The Influence of Anesthesia Upon Medical Science," in which the question of vivisection of animals was a paramount issue. Doctor Charles McBurney, of New York, read a paper on "The Surgery of the Future," in which he declared that the future surgeon would enjoy a more intimate relation with the physician than ever before. Doctor S. Weir Mitchell, of Philadelphia, concluded the program by a poem entitled "The Birth and Death of Pain."

CAUSES OF DEATHS IN MICHIGAN DURING THE YEAR 1894.

According to the "Twenty-eighth Annual Registration Report of Michigan," now in press, there was registered for the year 1894 a total of 20,959 deaths from all causes. Of these deaths, 1,213 were from violence, 1,083 were stillbirths and premature births, and 1,688 were entirely unspecified as to cause of death, leaving a remainder of 16,975 deaths due to various diseases. Taking this number as a basis, we obtain the following percentages for certain important diseases and groups of diseases during the year. For comparison, the corresponding numbers and rates for the previous year are also given:

CAUSES OF DEATH.	Year 1894.		Year 1893.	
	Number.	Per Cent.	Number.	Per Cent.
Total deaths from disease	16,975	100.0	17,911	100.0
Consumption, ...	2,206	13.0	2,154	12.0
Diphtheria and croup, ...	822	4.8	1,218	6.8
Typhoid fever, ...	536	3.2	689	3.8
Scarlet fever, ...	163	1.0	360	2.0
Whooping cough, ...	158	.9	172	1.0
Measles, ...	86	.5	127	.7
Small pox, ...	85	.5	3	....
Total dangerous communicable diseases, .	4,387	25.8	5,053	28.2
Cancer, ...	677	4.0	644	3.6
Influenza, ...	402	2.4	555	3.1
Pneumonia, ...	1,200	7.1	1,385	7.7
Lung diseases (including pneumonia and consumption), ...	3,896	23.0	4,020	22.4
Bowel diseases, ...	2,060	12.1	3,035	11.4
Brain diseases, ...	1,829	10.8	1,709	9.5
Heart diseases (not including "heart failure"),	986	5.8	1,076	6.0

A marked decline is noted in diphtheria and croup, typhoid fever, scarlet fever measles and influenza. Consumption showed a slight increase over the preceding year. The proportion of deaths from *dangerous communicable diseases*, as defined by the State Board of Health, and corresponding very closely, with the addition of tuberculosis, to the old term *zymotic diseases*, was distinctly less in 1894 than in 1893.

A NEW REMEDY FOR CANCER.

Doctor Denisko, a hospital physician at Briansk, announces chelidonium majus as an efficient agent in the treatment of cancer. It is prescribed for internal and local medication. The amount administered daily averages from twenty-three to seventy-five grains of the extract taken in water or peppermint water, and in addition a preparation consisting of equal parts of the extract, water and glycerine is injected into the tumor when practicable. Several insertions are made in the growth near its circumference, and altogether fifteen drops are injected at each sitting. If ulceration be present the surface is painted twice daily with a mixture of one or two parts of the extract and one of glycerine. No disturbance is occasioned by the internal dosage, but the injections cause slight local smarting, a sensation of languor, rigor, and some pyrexia, phenomena which become manifest within half an hour after the injection and disappear before the next day. However, the application of this medicament should be carefully regulated to conform with any idiosyncrasy of the patient. The sallow discoloration which characterizes the skin of cancer patients is said to disappear after a very few days of this treatment. In the meantime the tumor becomes softer and after four or five days a breaking down process is inaugurated by the appearance of small fistulæ where the needle has been inserted. Within fifteen or twenty days a complete zone of demarkation is apparent between the healthy and diseased tissue, a decrease to half its former size occurs in the tumor, and adjacent glands that may have been encroached upon by the cancerous condition assume a normal aspect.

THE MARINE HOSPITAL SERVICE.

On February 3, 1897, a competitive examination of candidates for appointment to the position of assistant surgeon in the United States Marine Hospital service will be conducted in Washington, District of Columbia. The salary of an assistant surgeon is $1,600 per annum; of a past assistant surgeon, $1,800; of a surgeon $2,500. These salaries are exclusive of furnished quarters, light and fuel which are provided by the government. An additional compensation of ten per cent. of the annual salary is allowed medical officers above the rank of assistant surgeon for each five years of service, the maximum percentage, however, not to exceed forty. At stations where no quarters are furnished commutation of quarters is allowed, the rate being from $30 to $50, depending upon the rank of the surgeon. Candidates for appointment must be twenty-one years of age and are not eligible after reaching thirty. They must be graduates of a reputable medical college, and present testimonials of character. Successful candidates, after having made the required grade, are commissioned by the President of the United States, and receive their appointments in order of merit as vacancies arise during the year.

THE ALVARENGA PRIZE.

The next award of the Alvarenga Prize is announced by the College of Physicians of Philadelphia to occur on July 14, 1897, provided an essay be presented which the committee of award shall deem of sufficient merit. The prize will be $180, the income for one year of the Senor Alvarenga bequest. Competitors may write upon any subject in medicine, but essays are not admissible that have been published. The signature of the author must be omitted from the paper, and instead be plainly marked with a motto and accompanied by a sealed envelope bearing a duplicate motto on its outside and the name and address of the author within. Essays must be in the hands of the secretary of the college on or before May 1, 1897, and the successful essay or a copy thereof must be left in possession of the college. There was no prize awarded for 1896.

A BURNING TOPIC.

It is the experience of Doctor McInnis, of Edmonton, Canada, that spirits of turpentine will, more readily than any other treatment, relieve pain and promote healing in burns of the first, second or third degree. His method of application is to wrap a thin layer of absorbent cotton over the burn, saturate it with the turpentine, and bandage. The ordinary commercial preparation is the one employed as it is generally found in the household dispensary. The volatile nature of the remedy necessitates frequent moisture of the cotton to compensate for evaporation. Large blebs are opened on the second or third day. Pain is sometimes occasioned by contact of the spirit with the normal skin surrounding the burnt area, and when dressing the wound care should be exercised to obviate this annoyance.

MINOR INTELLIGENCE.

The latest specialty suggested is "Diseases of the Aged."

Doctor Irwin, an Irishman, is physician to Li Hung Chang.

The District of Columbia has one physician for every 264.2 inhabitants.

Doctor John B. Hamilton has resigned from the United States Marine Hospital service.

Professor Ramsey has succeeded in dividing helium into two portions, both of which give the same spectrum, notwithstanding one is lighter than the other.

France has 17,500 doctors. The universities create about 650 new ones each year and during the same period death removes 450 from the Aesculapian field.

The Southern Surgical and Gynecological Association will convene in ninth annual meeting at Nashville, Tennessee, on November 10, and continue its sessions three days.

A bill which contemplates lengthening the course of study for the degree of Doctor of Medicine from three years to five years is being considered by the legislature of New Zealand.

A new trachoma forceps is a candidate for professional favor. It has been invented by Doctor E. G. Rust, of Cleveland, Ohio, and is a modification of the Knapp and Noyes instrument.

In 1858 Scotland had 5824 lunatics. The statistics for 1896 aver the number has increased to 14,093. The population has increased only thirty-eight per cent. during this period, but lunacy has augmented 142 per cent.

Sanoform has been introduced as a substitute for iodoform. It is an odorless and tasteless biiodate of the salicylic methyl ether; is unaffected by light; is a powerful desiccator; and prevents the decomposition of discharges.

One hundred and twenty persons were inoculated against rabies at the Rudolf-Stiftung in Vienna during the years 1894–95 without the occurrence of a single death. Professor Paltauf has charge of the antirabic department.

A dentist has been arrested and fined in Berlin for announcing himself, on his office sign, as a "doctor of dentistry" from an American college. The court declared that the law prohibited such display of foreign dental titles in Germany.

At the recent meeting of the Saginaw County Medical Society the following officers were elected for the ensuing year: President, Doctor William S. Connery; vicepresident, Doctor Karl Kanzler; secretary, Doctor Elmore E. Curtis; Treasurer, Doctor C. W. T. Goodman.

The New York Post Graduate Medical School and Hospital is defendant in a suit for $25,000 damages instituted by the father of a woman whose death is alleged to have occurred as a result of gross neglience and improper treatment by the surgeons and attendants of that institution.

Doctor Muller, of Vienna, has recently discovered a constituent of the blood which has been designated hemokonia (blood dust) and described as floating particles resembling fat globules. They are one-twenty-five-thousandth of an inch in diameter, unaffected by osmic acid, and invested with power of motion.

The newly elected officers of the Wayne County Medical Society are: President, Doctor Geo. E. Frothingham; vicepresident, Doctor L. E. Maire; secretary, Doctor J. A. Patton; treasurer, Doctor C. Henri Leonard; board of directors, Doctors E. B. Smith, Kenneth Gunsolus, O. P. Eaton, T. J. Parker, and W. R. Henderson.

It has been decided in Vienna that the practice of medicine is a privileged profession—not a trade, and therefore the property of a practitioner cannot be seized for debts. A certain case recently passed through all the courts, each one rendering this decision.

The application of the tuberculin test to 308 cows within the city limits of New York has revealed the existence of tuberculosis in 52, a ratio of nearly 17 per cent. The milk supply of 325 families was derived from two herds comprising a total of 46 cows in which examination demonstrated the presence of the bacillus tuberculosis in 19.

The health department of Greater New York consists of a single health commissinoer whose appointment and removal are subject to the pleasure of the mayor. The headquarters will be on Manhattan Island. Brooklyn and possibly other boroughs will be accorded a deputy commissioner, a register of records, and a sanitary superintendent.

There are about 175 medical colleges in the United States, the several schools of practice being represented as follows: regular, 120; homeopathic, 19; eclectic, 7; physiomedical, 2; unclassified 12. Eight are for women exclusively, 5 of this number being regular, 2 homeopathic, and 1 eclectic. Four are for colored students. Eight are dedicated to coeducation.

Carrier pigeons have been brought into requisition by a doctor in the Highlands of Scotland. His patients are scattered over a wide area and pigeons are taken with him when making visits and sent with the prescription to the apothecary. The winged creatures are also left with distant families who utilize them as messengers when the doctor's services are required.

At a stated meeting of the Pathological Society of Philadelphia held on October 8 the following officers were elected for the ensuing year: President, Doctor J. H. Musser; vicepresidents, Doctors John Guiteras, William E. Hughes, F. A. Packard, C. W. Burt; secretary, Doctor A. A. Eshner; treasurer, Doctor T. S. Westcott; recorder, Doctor W. S. Carter; curator, Doctor D. Riesman.

Snake bile is lauded as a remedy for snake bite. Make incisions in the vicinity of the bite and pour the bile into the affected area. Doctor Alexander, of Saint Augustine, Florida, reports a case successfully treated by this antidote. A contemporary asserts that the natives of Bushmanland, in South Africa, ingest the poison from the glands of freshly killed snakes to obtain immunity from the bite.

At the recent meeting of the American Association of Obstetricians and Gynecologists the following officers were elected for the ensuing year: President, Doctor James F. W. Ross, of Toronto, Ontario; secretary, Doctor William Warren Potter, of Buffalo; treasurer, Doctor X. O. Worder, of Pittsburg. The next meeting will be held at Niagara Falls, New York, the 24th, 25th and 26th of August, 1897.

There are twelve hundred blind persons in Brooklyn and vicinity, only a small proportion of whom are inmates of charitable institutions. The laudable undertaking of caring for the women of this unfortunate class has been signalized by the Church Charity Foundation of the Long Island Episcopal diocese which contemplates opening a home in Maspeth on November 1. The property consists of a building and five acres of land.

Surgeon General Sternberg has rendered his report of the health of the United States army for the year ending June 30, 1896. The number of soldiers constantly sick during the year was 35.89 per thousand of strength and the number of deaths 5.16 per thousand of strength. During 1894 the sick numbered 31.19 per thousand of strength, and for the preceding ten years the record disclosed an annual average of 41.59, while the mortality rate for the year 1894 was 6.69, and for the preceding decade it averaged 7.85.

DOCTOR D. MILTON GREENE, of Grand Rapids, recently left that city with his family and household effects destined for Dubuque, Iowa, intending to engage in general practice at that point. After an absence of several days a professional call summoned him back to the Valley City, where familiar scenes and friendly greetings developed in the doctor a typical form of homesickness which finally and happily culminated in his decision to relocate in Grand Rapids, and he immediately sent for his family. Doctor Greene will resume his special practice.

DOCTOR FEENEY, of Staten Island, is defendant in a damage suit instituted by an undertaker to recover $5,000 because of facial disfigurement by the pits of small-pox. It seems that the physician erred in diagnosing as chicken-pox several cases from which the plaintiff, in the capacity of undertaker, contracted variola. In conjunction with the vocation of funeral director the plaintiff exercised the function of coroner, and to this fact is attributable the unique procedure of an individual "pitting" himself against the author of his existence.

THE right to practice medicine in England on an American diploma has been established. The Medical Defiance Union recently brought suit against an American who appended to his name the letters "M. D., U. S. A.," and the court decided that inasmuch as there was no evidence of any title having been claimed which would lead people to believe the defendant was a British practitioner, he was at liberty to continue in practice, providing he possessed a genuine diploma from a recognized medical college. It cost the plaintiffs £800 to gain this information.

DOCTOR BENJAMIN PYLE, of Grand Rapids, Michigan, has resolved upon a respite from busy practice for the purpose of devoting six months to special study in New York City, from whence he will go to Europe for a like period of study in Germany and Austria. The doctor is a B.A. of Hope College, Holland, Michigan, and an M.D. of the University of Michigan, class of 1883. He located in the Valley City directly after graduating and has already acquired a neat fortune, having enjoyed one of the largest practices in the western metropolis for several years.

THE trace and odor of urine in public urinals may be prevented by applying a coat of heavy oil to the urinals. This procedure has attained vogue in Vienna where 178 public urinals are painted with thick mineral oil obtained from the distillation of petroleum. The bowl is scrubbed weekly or fortnightly previous to treating with oil. The innovation has been accorded favor in other continental cities, some having adopted a permanent syphon system of supplying the lubricant. This new process of cleansing urinals contemplates a decrease in expenditure for water.

IN 1889 the number of deaths from typhoid fever in Chicago was 2.67 per cent. In 1896 the proportion is 3.17 per cent. It is estimated by Health officer Reilly that the legal value of human lives sacrificed to the disease in that city during the past year aggregates $3,750,000. Add to this amount the items of medical treatment and postmortem essentials and the sum would easily be augumented to $5,000,000. The mayor has been authorized to engage three eminent engineers to devise plans for perfecting the sewage system in the hope of decreasing the mortality rate and money loss.

DRUNKENNESS in a physician is not regarded as unprofessional conduct in Oregon. The Board of Medical Examiners lately rendered this decision after sitting upon a case supposed to be within the legal province of the board's power to revoke the license of a physician guilty of moral turpitude. It was held by the board that a physician may become intoxicated and indulge in boisterous language without being relegated to the domain of immorality, and counsel for the physician, ex-United States Senator Dolph, coolly argued that getting drunk merely involved the violation of a city ordinance, and finally insisted that even frequent repetition of the disgraceful procedure did not indicate moral turpitude.

Medical examinations were recently conducted at Harrisburg, Pennsylvania. The list of applicants comprised three hundred regulars, seventy homeopaths, several eclectics, and everything augured propitiously for a "single standard" of proficiency, but it seems that one of the aspirants for a license had in some mysterious way procured a copy of the examination questions and was supplying the information contained therein for $25 to those who felt the necessity of a "pony" to insure success. The board discovered the existing condition in time to change the questions, and punished the offender by proscription from the domain of medicine in that commonwealth.

RECENT PUBLICATIONS.

REVIEWS.

A MANUAL OF ANATOMY.*

The excellent and exact anatomical representations included in this manual of anatomy will make it invaluable to the student of visceral anatomy. The scheme of the work differs somewhat from that in vogue in the accepted standard text-books. This is the outcome of the author's personal experience as a teacher of anatomy. That considerable time is wasted by disproportionate attention to comparatively unimportant facts has made the teaching of anatomy hitherto wearisome and unsuccessful is generally admitted. Any new departure is worth trying.

* By Irving S. Haynes, Ph.B., M.D., Adjunct Professor and Demonstrator of Anatomy in the Medical Department of the New York University. One hundred and thirty-four half tone illustrations and forty-two diagrams. Price, $2.50 net. W. B. Saunders, Philadelphia.

A MANUAL OF THE PRACTICE OF MEDICINE.*

In a concise and available form, the author gives us an excellent manual of the "Practice of Medicine." The book possesses many conspicuous merits, not the least of which will be found in the excellent diagrams and charts with which it abounds. The text is in all respects modern, and the latest knowledge is incorporated therein.

*By George Roe Lockwood, M. D., Professor of Medicine in the Woman's Medical College of the New York Infirmary. Seventy-five illustrations and twenty-two full-page colored plates. Price $2.50 net. W. B. Saunders, Philadelphia.

THE STOMACH.*

The treatment of digestive disorders being most successfully accomplished by regime treatment, Doctor Kellogg's wide experience in sanitarium work makes him specially competent to direct and indicate the appropriate measures to be pursued in the correct management of digestive maladies.

The book before us is a lucid and popular exposition of a subject on which the laity will probably never acquire correct ideas, but on which it is possible they may possess less erroneous notions. As a domestic manual of medicine illustrating the uses of institutional treatment the work is especially to be commended.

*Its Disorders and How to Treat Them. By J. H. Kellogg, M. D., Superintendent of the Battle Creek Sanitarium. Illustrated. The Modern Medicine Publishing Company, Battle Creek, 1896.

MEDICAL PROGRESS.

MEDICINE.

THE TREATMENT OF HÆMOPTYSIS.

In the early stage hemorrhage from the lungs is, in most instances, the result of active hyperemia, and ceases so soon as the too active flow of blood to the lungs is corrected. When the hemorrhage arises from the ulceration or rupture of a pulmonary artery, either the opening must be closed by the contraction of the vascular coats or by the formation of a coagulum. Hence the administration of ergot, acetate of lead, gallic acid, and the like. But do these remedies accomplish the end sought? The effect of ergot is either denied altogether or considered doubtful by many clinicians. Openchowsky claims to have demonstrated, by means of a manometer introduced into the pulmonary arteries of lower animals, that drugs which affect blood-pressure within the aortic arterial system exert no effect upon the pulmonary arteries, except indirectly through their influence over aortic blood-pressure. Landois states that "contraction of small arteries, which causes an increase of blood-pressure in the systemic circulation, also raises the pressure in the pulmonic circuit, because more blood flows to the right side of the heart." Also, that the "vasomotor system has much less effect upon the pulmonary blood-vessels than upon those of the systemic circulation."

These considerations make it probable that ergot not only does not produce contraction of the pulmonary capillaries, but through its constriction of the systemic arterioles, raises blood-pressure within the pulmonic system, and would theoretically aggravate rather than ameliorate hemoptysis in the stage of excavation. The application of ice to the chest is stated by Landois and Winternitz to produce contraction of pulmonic capillaries, and its employment is, of course, based on this theory. Its effect cannot be localized, and it may be applied indifferently to various parts of the chest instead of nearly over the probable seat of hemorrhage. Indeed, Winternitz advocates the application of ice-bags to the supraclavicular spaces. It seems to me that the surest method of producing contraction of the pulmonary blood-vessels is by lessening the amount of blood flowing through them, if, indeed, that be at all possible, and that this is best accomplished by dilatation of the systemic arterioles,—in other words, bleed the patient into his own vessels. Furthermore, the retardation of the circulation favors the coagulation of the blood at the seat of hemorrhage. To meet this twofold indication arterial and cardiac depressants are employed. Aconite and veratrum viride produce arterial relaxation and slow the pulse-rate, but do this chiefly through their effect upon the myocardium. There is, therefore, certain danger of too greatly weakening the heart's action, and a drug which will produce vasomotor dilation primarily and a subordinate degree of cardiac asthenia is preferable. Such a remedy is ipecac, and, admistered in doses sufficient to maintain nausea, it is not only theoretically but empirically useful. The power of increasing the coagulability of the blood claimed for gallic acid is questionable, and the vasomotor-constrictor effect of tannic acid, acetate of lead, and mineral acids is open to the same theoretical objection as is ergot.

In conclusion, permit me briefly to state the treatment I employ. For the hemoptysis of active hyperemia I quiet the cough,—preferably by phosphate of codeine, by hypodermic injections or by the mouth; prescribe syrup of ipecac in frequent doses until nausea is produced, and order an efficient but not severe aperient, preferably Hunyadi or Rubinat water. If the hemorrhage be within a cavity and profuse, I order the immediate injection, hypodermically, of one-fiftieth or even one-twenty-fifth of a grain of sulphate of atropine. It is rarely my lot to reach the bedside during such an attack, but in cases in which profuse hemoptysis is likely to recur, I leave orders with the nurse to resort at once to this treatment. This dose promptly produces pronounced physiological effects, but is not dangerous, and the increase of the heart's rate and vigor is offset by the vasomotor paresis occasioned, which diverts the blood to the periphery. It may be urged also that the effect of a full dose of atropine corresponds to that of the application of heat to the surface of the body.

Schueller's experiments with animals showed that contraction of the internal vessels promptly follows the application of heat to the integument, as of the abdomen. It may be that the flushing of the skin caused by atropine acts like the application of heat by producing contraction of internal, and therefore pulmonic, vessels. If anything will promptly arrest pulmonary hemorrhage, I believe it is atropine administered in this way. The subsequent treatment is all directed to the maintenance of the effect obtained by the atropine, and consists essentially of ipecac, codeine, and laxatives in doses varying to suit the requirements of each case. It goes without saying that absolute physical and mental rest is insisted upon, and the diet is light and unstimulating. In a word, I believe that when our efforts have been directed in keeping the lungs quiet and the blood in the periphery of the body, we have done all that can be done for the relief of hemoptysis; nature must do the rest.—R. H. Babcock, M. D., in *The International Medical Magazine.*

SEXUAL HYGIENE.

The tendency of our time, particularly the prevalent contempt for religion, makes chastity more difficult for every one, and the invert suffers far more from this than others. Instead of debasing the honorable invert by making him run after prostitutes and subsequently become the unfortunate husband of a less fortunate wife, and the father of children who suffer as much as he or more, the attempt should be made to occupy and interest him, to show him the horizons he can attain by dint of will. If chastity were a virtue in better favor, I should recommend it to physicians as a more effective remedy than to send the invert to 'puella' to prepare him for marriage and paternity. It would be better not to increase the number of husbands and fathers who are inverts or perverts. As for the invert who wishes to marry in order to have children his desire is almost criminal. If he marries for social convenience, to reinstate himself, or to please his family, he should marry a woman older than himself, a woman of the world who understands everything and accepts the situation. Those familiar with the confessions of inverts, and a marvelous lot are correlated in the works of Krafft-Ebing, will see that in the same ratio as their sexual feelings are distorted so is their conception of themselves, their surroundings and everything else in the world. The superior invert has no right to think he is born out of his epoch or his country. Even the Orient today (where pederasty is practiced without difficulty) would not offer him the intellectual pleasures to which he is accustomed, music, the theatre, et cetra. He would see with a smile that most of the new Greeks would have been considered too sickly or too generally malformed to be reared by the Spartans. He will see with more or less courage that the satisfaction of the sexual appetite is not, and cannot be, the *sine qua non* of existence to a modern man. Too long has the general practitioner given this subject over into the hands of a few specialists who see almost entirely the extreme cases, so that there is a great dearth of literature relative to its development and prophylaxis. To quote Nordau, specialists have failed to understand their duty. It is time for them to come to the front; it is no doubt meritorious to indurate sections of the spinal cord in chromic acid, and tint them in a neuthrophylic solution, but this should not exhaust them. Neither is it sufficient that they should give a few lectures to jurists, and publish observations in technical journals. Let them speak to the masses of cultured persons who are neither physicians nor learned in law. Let them enlighten them in general publications and accessible conferences, concerning the leading facts in mental therapeutics. If civic authorities deem it necessary to consult us with reference to bodily hygiene and sanitation, should we not have some jurisdiction over that more important and far-reaching field, the sanitation of the mind? Then the baleful influences of the Ibsens, Zolas, and Rousseaus might be curtailed. Then 'Heavenly Twins,' 'Jude the Obscure,' 'Trilby,' and the 'Woman Who Did' will cease to be the center of a gushing, hysterical, psychoneuropathic circle and its followers, the faddists who follow because they have not the ability for independent thought.—Doctor Thompson in *The Medical Century.*

SURGERY.

THE SURGERY OF APPENDICITIS.*

ACCORDING to the numerous articles recently published in France and abroad upon the subject of appendicitis and the important discussions to which they have given rise, we might say that today the history of that disease is complete.

Different clinical types of the disease, according to the progress and distinctive character of the symptoms, have been correctly recognized, but are we right in affirming that to each of these forms of the disease corresponds a special line of treatment? Are there cases of appendicitis that can rightly be called "medical," in which the expectant method of treatment should be the rule? And other "surgical" cases, wherein operative measures should either be at once adopted, or after a certain delay? A definite answer to these questions has not as yet been made and grave consequences have resulted from the spirit of hesitation which still exists in the minds of medical men.

My object in this communication is to bring before you some facts I have recently noted which seem to me quite instructive. They concern a case of appendicitis, in which the benign course of the symptoms referred it to one of those forms of the disease wherein writers in general advise delay, or even avoidance of all surgical interference. I operated nevertheless and found such lesions that I am certain would have led to serious consequences had I decided to wait. But before commenting upon this case allow me to describe it to you.

I make no pretensions, I assure you, to anything new. Analogous cases can easily be found in publications already made, still it seems to me that we have not yet endeavored to bring clearly before us the lesson taught by prompt surgical interference.

Mr. C. B., who for a couple of days had suffered from a slight diarrhea, was awakened on Thursday morning, April 9, 1896, by griping pains and chills, followed by a sudden attack of violent pain in the right iliac region while sitting at stool, and a few minutes later vomiting of mucus set in, but the vomited matters contained neither bile nor food. Doctor George Bandonin, his physician, was called, and when some hours later he arrived at his patient's bedside the latter, who the year before had suffered from several severe attacks of hepatic colic, told him that he had again been visited by his old enemy. But upon making a careful examination the doctor had little difficulty in satisfying himself that he had another disease to deal with. In fact the abdominal pain which had persisted since early morning, had begun, as Mr. B. stated, at the classical point of commencing appendicitis, two and a half fingers breadth inside the anterior superior iliac spine, on the line joining the latter to the umbilicus, radiating thence over the right half of the abdomen, but attaining its maximum intensity in two places, one at the end of the point of origin, the other in the right side behind and under the inferior surface of the liver. The latter pain showed itself especially when, upon abdominal palpation, pain was awakened in the former, and the patient, who noticed these facts, and gave a calm, intelligent account of his sensations, stated that pressure upon the points mentioned gave him the impression of a foreign body in the side, each extremity of which corresponded to the tender points.

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*Translated expressly for The Physician and Surgeon, by O. C. Brown, M. D., Detroit, Michigan.

There was no abdominal swelling nor puffiness anywhere; the liver appeared normal in size, the gall-bladder was not distended, nor was the hepatic region particularly sensitive to pressure; no jaundiçe, but rather an earthy tint of the skin, tongue dirty, nausea persistent, the urine high colored, but free from bile pigment.

In presence of such an array of symptoms Doctor Bandonin could neither admit hepatic trouble nor kidney disease. He suspected mischief located in the region of the appendix vermiformis, and this view of the case seemingly justified by the solution of the disease, was supported by the antecedent history of the patient. Thus, Mister B, who is forty years of age, informed us that since the age of eleven years he has had on many occasions attacks of pain, which seemed to have been brought on by chills and fatigue and lasting from a fortnight to three weeks. He had also noticed during his sojourn at college that he could not remain seated two hours at a time without feeling griping pains, always located in the same region of the abdomen, and only relieved by prolonged application of heat or walking. When eighteen years old he was taken with a gastric trouble that showed itself by severe pain over the stomach, vomiting, and complete intolerance of all food, whether liquid or solid. He considered himself cured after a season at Alet. Similar attacks, however, have occurred since that time, about every three or four years.

In 1890 Doctor Bandonin had occasion for the first time to treat him for digestive difficulties, which in the nature of excess of hydrochloric acidity, had been troubling him for about a year. In 1895 more attacks of hepatic colic with jaundice, pain over the gall-bladder, et cetera, et cetera, the diagnosis having been confirmed by Doctor A. Robin, and which attacks recurred from time to time during six months or thereabout. Finally the patient was sent to Vichy, but while there, strangely enough, he could not make use of the mineral water, for at the beginning of his stay he was taken with copious and repeated vomitings, recurring every night, of half digested food and a highly acid liquid. The only relief obtained was from thorough washing out of the stomach, and under this treatment the attacks ceased.

From that time nothing particular is to be noted; the patient continued the washings at divided intervals, enjoying fairly good health. He was put upon a course of treatment intended to fix the intestines, and keep them as free as was possible from peristalsis—opium, cataplasms, hot applications to the belly, and milk diet.

April 10: The patient felt better the following morning, pain lessened, temperature 37° 2′. Nothing of importance has occurred since yesterday, still the local symptoms persist, and Doctor S. Pozzi was called in consultation, and that surgeon, taking into consideration the sharply localized pain, and the patient's antecedents, advised an immediate operation, which was performed the next day, April 11. The patient had passed a good night, felt well, had no fever, and suffered from pain only upon pressure on the tender places alluded to. It required all the persuasion of his physicians, and his confidence in the correctness of their diagnosis, to gain his consent to allow the operation of opening into the abdominal cavity to be performed, so mild were the symptoms.

Operation, April 11, 1896.—Exploration of the affected region merely enabled us to feel resistance more marked on the left side of the cecal region, but without puffiness nor any sense of tumor. An incision about ten centimetres in length, and similar to that made in ligating the external iliac artery, was made, and brought the large intestine into view, but gradually drawing on it above and below, it was noticed that it was the great omentum and not the cecum that had appeared, it being considerably drawn to the right. It was pushed inwards, and the hooked finger introduced into the wound recognized at its upper angle, above and behind, the resistance of a hardened cecal appendix. The incision was then carried above for about three centimetres, and two fingers introduced into the wound, enabling us to separate the appendix which hugged the posterior surface of the cecum like an elastic cord. Separation was easily made, and the appendix drawn downwards, describing a semicircle in its course before being drawn into the wound. It was swollen, of a violet color, and hard, its size exceeding that of the little finger, and showing a grayish ulceration of gangrenous appearance, soft consistence, and forming a sort of crater-like opening. The meso-vermium enclosed a large, edematous, fatty mass, but no trace of pus in the neighborhood of the cecum. We might suppose that the fibrinous adhesions that surrounded the appendix still formed a barrier sufficiently secure against infection.

The wound having been protected by aseptic compresses, completely isolating the field of operation, we proceeded to ligate and excise the appendix. The existence of that gangrenous perforation being a centre from which secondary infection might take place through the silk ligatures, catgut was used instead, the meso-vermium tied and separated, and the first ligature applied to the cecum drawn as closely to it as possible, and well tightened. A second ligature was then placed upon this constriction, tied tightly and the appendix removed. The little stump left after removal of the appendix was affected by the disease that involved the whole organ. It was therefore carefully and thoroughly burned by the thermo-cautery in order to sterilize it, buried in a fold of the cecum taken from its lower surface, and fixed in its bed by a Lembert suture of catgut, when the sutures were firmly drawn together, the little pedicle disappeared completely and the cecum presented a uniform appearance.

The abdominal incision was sutured in three superimposed layers, a small opening was left at its lower angle, through which a piece of iodoform gauze was passed to reach the bottom of the cecal cavity and thoroughly drain it.

No traces of pus nor calculi were found at any step of the operation. Its results were favorable, there was no rise of temperature, capillary drainage by means of the gauze evacuated a large quantity of sanguinolent serosity. The gauze was replaced on the third day by a caoutchouc tube, which was gradually shortened and withdrawn altogether on the twelfth day.

No concretions were observed on the dressings, and at the present time, sixteen days after the operation, the healing is complete, excepting about one centimetre's width corresponding to the site of insertion of the drainage tube. Pressure causes no pain, the cecal region is perfectly pliant and yielding.

A considerable change for the better is now apparent in the patient's outward apperance, the earthy tint of his skin has become normal, and his appetite has returned.

Examination of the appendix shows that organ to measure about four centimetres in length. Its volume exceeds that of the little finger. It is perceptibly cylindrical in shape, slightly enlarged at its terminal point, color a violet red, and consistence somewhat elastic. At the junction of the upper two-thirds with the lower third a crater-like perforation is seen, large enough to permit the passage of a female sound, its ragged edges of a grayish color, the surrounding tissue gangrenous for half a centimetre. Longitudinal section shows the walls thickened and fleshy, mucosa hypertrophied and much infiltrated, no traces of any calculi nor concretions, but only a few drops of a thick, blackish liquid having a fecal odor. There is no shrinking nor obliteration of the calibre of the appendix.

Bacteriological examination by Doctor Baussenet, Medical Interne. Cultures of the liquid contained in the appendix were made in bouillon, agar, and gelatin by Doctor Baussenet. The agar and bouillon cultures became cloudy, the gelatine was not liquified, showing that a bacillus possessing the morphological characters of the bacilli coli communis, not decolorizing Gram's solution, was about the only microbe concerned. The culture was pure. Direct examination of the liquid failed to show the presence of any other bacteria.

To sum up, here was a man upon whom we operated for the first well marked attack of appendicitis. Preceding attacks had been more or less marked by accessory symptoms attributed in turn either to an affection of the stomach, or disease of the biliary passages. This first sharp attack of appendicular colic, accompanied by moderate fever, without persistent reaction, followed almost immediately by a clear remission of all symptoms, certainly should be classed with those mild forms of the disease, the so-called "medical" cases. According to one of the most authoritative works upon this disease (Ch. Talamon, appendicite et perityphlite), our case could be only comprised under one of these three heads—(1) "simple parietal appendicitis," (2) "acute appendicitis" with localized peritonitis, or (3) "chronic appendicitis" with acute explosions. It seems most natural to class it in the first order. Now according to the author just cited, and whose opinion has much weight among a large number of medical men, this variety of the disease is essentially medical, and heals without operation. Or should we prefer to look upon it as a case of acute appendicitis with localized peritonitis, relying upon the intensity of the local pain? Here again, according to the same guide we ought to have waited from eight to twelve days until signs of suppuration appeared. Finally, if after a lucky analysis of the somewhat confused amnesia, we had decided to accept the diagnosis of chronic appendicitis with tendency to sudden acute relapses, we would also in this case be advised to wait at least until the cessation of the inflammation enabled us to treat it as a cold abscess.

I do not wish to insist too much on these points. The only clinical type for which immediate interference has been prescribed, "subacute perforating appendicitis," is precisely the one to which it was clinically impossible to refer my case. There was nothing in the progress of the case to authorize such a classification. The advice laid down is to depend upon medical treatment alone, yet there was perforation and commencing gangrene, which would quickly have caused the most frightful results. What should we say? Must we then change entirely these classical descriptions of the disease and decline to accept any distinctions of type in appendicitis? By no means. These divisions are useful in this, that they enable us to trace clearly the features of the disease. But we must guard ourselves from therapeutic deductions theoretically derived from these descriptive divisions. In holding on to them, I propose to add a supplementary proposition. "Any confirmed case of appendicitis, however mild its course, and to whatever clinical type it may belong, may end suddenly in perforation with all its serious consequences."

Permit me now to refer briefly to an anatomical peculiarity in this case, and to insist upon its value from an histological and pathological standpoint.

In my case I found the appendix bent over at the point of its insertion into the cecum, embracing tightly the latter organ, an arrangement frequently observed by surgeons.

The more or less complete twisting of the little organ caused by adhesive bands has also been noted by surgeons, and in many cases it seems that the twisting of the appendix constitutes the only lesion—as in Bull's oft-cited cases, and that of Doctor Shrady (*The New York Medical Record*), and Doctor Talamon, *loco citato*, page 118.) The latter has a special importance, and refers to the results presented by the postmortem made upon a man who had had four characteristic attacks of appendicitis with symptoms of peritonitis (or peritonism). In every one of the four attacks the symptoms diminished in intensity, and the operation was delayed. The postmortem was made by request and according to the directions of the patient, and showed "the appendix perfectly sound; it was not even thickened, nor did the pericecal tissue, nor the peritoneum present the slightest traces of inflammation."

To those authors who explain those painful cases of appendicular colic by obstruction due to calculi, the numerous facts of the kind I have quoted must, I say, be very embarrassing. They are compelled to suppose that calculi, after remaining for a time in the appendix, fall back again into the cecum, a mere hypothesis. Again, other well made observations have shown the rôle often played by flexion alone. Treves cites a case, in which the extremity of the appendix was so enlarged, indurated, and rounded, that it seemed to contain a fecal concretion. The organ was folded upon itself when set free and straightened, the mucous membrane rolled back into the cecum, and the apparently solid tumor disappeared at once.

I, myself, had occasion lately to note the evident effect of bending or twisting of the appendix. Four days ago I operated upon a young man who, on different occasions, had suffered from attacks of appendictis; the last relapse, after an interval of five months, was followed by the evacuation per rectum of a large quantity of pus. On Thursday, April 23, this man had been seized as the result of fatigue, with colic, suspicious pain in the side, and slight elevation of temperature. I operated the next morning and found a thickened and sclerosed appendix, partially obliterated near its extremity and containing three small fecal concretions, but no narrowing between the concretions and the cecal opening. There were no signs apparent to the naked eye of any recent inflammation of the appendix, but it was tied down by firm adhesion which caused flexion and twisting of the appendix upon its axis.

Could not temporary exaggeration of this torsion by gaseous or fecal obstruction have been the cause of those sudden reappearances of the trouble?

Now I am anxious to say that this pathogenic explanation of the trouble cannot compare with that so brilliantly sustained before you by Professor Dieulafoy. Like him, I believe in the intense influence exercised by temporary occlusion of the appendix transforming it into a closed cavity, and thus in a high degree increasing the virulence of contained microbes, and, in addition, the import of narrowing of the tube and the presence of calculi. Twisting of the appendix acts precisely in the same way; it obliterates the canal at the point of torsion, as if a ligature had been applied. We might say it has a double effect, for in addition to closure of the cavity must be added compression of the vessels and resulting ischemia.

These two factors acting together at the same time, cooperate in the rapid production of inflammation, followed by gangrene. In fact, there is produced something similar to that which takes place in twisting of ovarian cysts.

All surgeons know that this accident is marked by the sudden appearance of extremely acute pain, and sometimes though not constantly, followed by mortification of the cystic walls and peritonitis. Could not colic of the appendix be the consequence of this torsion? As regards the inflammation it occurs here just so much more rapidly as it concerns a hollow organ, the normal habitat of microbes, whose virulence, mild or latent, is at once aroused upon closure of the canal.

There is another question, What are the causes of these abnormal positions of the appendix? I think they are of two kinds, congenital, establishing a sort of predisposition to a more pronounced twisting; this is sometimes completed and produces injurious effects under the influence of other causes of pathological origin.

All anatomists are aware of the many varieties which the vermiform appendix presents in regard to size, form, and position.

In fact, it is a question of embryonic remains, and we know that these residual organs are subject to frequent variations and anomalies. (I have insisted upon this point in my previous studies upon the hymen.) There are extremely variable positions of the appendix vermiformis, dependent especially upon the more or less shortness of its "meso." Garlach's valve, a small semilunar folding of the mucosa, which closes half the orifice of communication between the cecum and appendix, is equally subject to variation.

There exists, then, in some subjects from birth a certain degree of bending or stenosis of the vermiform canal. Derangements of function of the cecum occur, causing dilation or displacement of that canal, and the torsion or bending will be easily converted into complete occlusion. In other words, certain individuals are congenitally predisposed to appendicitis in consequence of an especial anatomical arrangement of the parts. This latter, we see can be transmitted by heredity, and thus we are enabled to note the frequency with which the disease occurs in the same family, (appendicites familiales.) Perhaps these anatomical conditions may not be without causal effect in the retention in the vermiform canal of fecal particles, becoming or not, encrusted with calcareous salts, as happens with all foreign bodies enclosed in cavities. Thus would be explained the frequency of vermiform lithiasis (lithiase appendiculaire), to make use of Professor Dieulafoy's expression, unless we prefer, with my eminent colleague, to attribute it to a diathetic origin.

When this vicious position of the appendix has once been exaggerated and fixed by adhesions it becomes one of the principal factors of relapsing appendicitis. In fact, every variation in volume or position of the cecum reacts upon it. Doubtless thence the well known influence of fatigue and violent exercise in causing the reappearance of these relapses. The presence of calculi in the interior of the appendix often adds its effect to that of bending or torsion, completing the transformation of the vermiform canal into a closed cavity, and provoking a rapid multiplication of microbes.

Thus every attack of appendicitis creates a predisposition to another one. Of course healing may often occur and the disease heal, or appear to do so, without interference; but a mild attack will never protect the patient from another one, or be a guarantee that a succeeding attack will be less severe.

Hence, those persons who have once been afflicted with appendicitis are always in a kind of morbid danger; it needs but an error in diet, a chill, some excess causing another attack of pain in the right iliac fossa. We may compare such persons to women afflicted with oophoro-salpingitis of a chronic kind; both the one and the other have, as it were, an arrowhead buried in the side, and though they may not always be conscious of its presence, there is every reason why they should be freed from it.

I close with these conclusions:

(1) The different clinical types described by authors ("subacute perforating appendicitis," "catarrhal appendicitis," "simple parietal appendicitis," with vermiform colic, "acute appendicitis," with localized peritonitis, "subacute appendicitis," "chronic relapsing appendicitis," et cetera) deserve to be distinguished from a symptomatic point of view.

(2) But as regards prognosis they lead to confusion. We should remember that every recognized case of appendicitis, whatever type it may belong to, or however mild it may appear to be, may rapidly go on to perforation; should a case result, it is generally followed by relapse.

(3) Every time an appendix gives rise to local or general accidents, no matter how grave, it should be removed without delay. In fact, whether these troubles cause immediate danger of death, or better, if temporary improvement occur, they leave the patient affected with a disease often very painful and always liable to cause great danger to life.—DOCTOR S. POZZI in *Le Progres Medical.*

A NEW METHOD FOR REMOVING A CARCINOMATOUS RECTUM.

A NEW method, somewhat attractive from its description, has been devised for dealing with a rectum the seat of carcinoma. The author is M. Gaudier, of Lille, and the following are the steps of his operation: Laparotomy is first performed, the large intestine divided at the sigmoid flexure, the recto-vesical pouch is then opened, and the rectum separated from its attachments from above; this having been done, the patient is next placed in the lithotomy position, and a circular incision made round the anus; the incision is extended along the side of the rectum until the separation of the rectum is completed by the union of the external with the internal dissection. The rectum is next withdrawn through the perineal wound; the latter is then closed, and the loose end of the large intestine brought to the surface in the laparotomy wound, and an artificial anus established. The author has performed his operation once only, but the patient died on the fifth day. The cause of death is not stated.—*The Medical Press and Circular.*

MELANGE

DOCTORS AND LAWYERS.

Mr. Justice Vaughan Williams, at the annual presentation of prizes to the students of the Charing Cross Hospital Medical School, declared that there was a considerable affinity between the professions of law and medicine. Both required the same qualities, both were the recipients of confidences from their clients, and he would add that the clients rarely found their confidences misplaced. He, as a lawyer, often came into contact with doctors in the law courts, where most important issues were determined solely on the evidence of medical experts, who were for the most part safe guides in the administration of justice. One point, however, in which the professions differed was that the medical profession was essentially progressive, while the legal profession was in a sense stationary. If the doctors of the last century came to life again they would know comparatively nothing of contemporary medical science, but if the judges of former times were installed in the law courts tomorrow, they would try the cases quite as well, if not better, than the judges of today.—*British Medical Journal.*

PAPERS FOR URINE TESTING.

Take a good article of Swedish filter paper and saturate a sheet with a solution of citric acid, and hang athwart a thread to dry. Saturate another sheet with a three per cent. solution of mercuric bichloride in a twelve per cent. solution of potassium iodide (corrosive sublimate three, potassium iodide twelve, water one hundred. Dissolve the potassium salt in the water, and when solution is complete add the mercury salt and dissolve). Dry this sheet and then cut both sheets into strips two inches long by one-half inch wide. Put up in separate packages, labeling the one "Acidifying Paper and the other "Albumen Test-Paper." Directions to go with the paper should read: "In use, acidify a small quantity (say, fifteen minims) of urine by droping into it one slip of acidifying paper, and tamping slightly with a glass rod. Then add the test-paper and shake. If albumen be present in greater quantity than one part in ten thousand it will manifest itself by separating in flocculent masses."—*The National Druggist.*

DETERMINATION OF SEX.

Seligson (*Boston Medical and Surgical Journal*), in a preliminary article on the subject of the cause and determination of sex, advances a few interesting facts in support of the theory that ova from the right ovary develop into males; those from the left into females. Rabbits, from which the right ovary had been removed, bore only female young, while those from whom the left had been extirpated brought forth only male. Again, in all cases of tubal pregnancy of which the author could find notes, where the sex of the fetus was given, nineteen in all those of the right side were always males, those of the left females. These points would seem to merit further investigation.

FORCE OF HABIT.

The story of the man out West who moved so often that the very chickens, when they saw the covered wagon brought out, fell on their backs to have their feet tied for the journey is familiar to everyone. But it remains for a woman out West to afford a new illustration of the force of habit. Having some chronic uterine complaint, for the treatment of which she had suffered many things of many physicians, one day she said to a friend: "Whenever I see a physician I feel like taking Sim's position."

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ORIGINAL CONTRIBUTIONS.

MEMOIRS.

OPENING ADDRESS TO THE MEDICAL CLASSES OF THE UNIVERSITY OF MICHIGAN, OCTOBER 5, 1896.

BY WILLIAM J. HERDMAN, M. D., ANN ARBOR MICHIGAN.

PROFESSOR OF DISEASES OF THE MIND AND NERVOUS SYSTEM IN THE UNIVERSITY OF MICHIGAN.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

Gentlemen and Ladies of the Medical Classes: The duty has been assigned me by the faculty of addressing a few words to you on this the opening of another year of united effort, ours to teach and yours to learn. It is a pleasant privilege to welcome those of you who have returned to the scene of your past achievements in mastering the healing art, after what I trust has been a restful vacation, and a health and vigor renewing interval; and to those of you who, for the first time now take your seats upon these benches, we extend a cordial greeting, bidding you to remember that all here who have preceded you have likewise had their "first time" and are in friendly sympathy with you and imbued with a spirit of helpfulness on which you can rely.

I think I will best fulfil the wish of my associates in the faculty and perhaps do you the best service by choosing for the theme of my remarks an answer to the question "What should occupy the time and thought of the medical student as to create in him or her the highest fitness for action in this field of labor?"

It is to be presumed that one who has deliberately chosen and entered upon the work of preparing himself for an occupation to which he is to devote his energies for the remainder of his life, and from which he is to derive a living, has given much thought to the nature of the work which that occupation demands and has considered his taste and fitness for engaging in it. Your presence here in the capacity of medical students indicates that in this personal summing up of your inclinations and abilities you have reached the conclusion that nature has endowed you with faculties which will readily adapt themselves to the requirements of this profession. In this we trust you have made no mistake and hope that in the solution of the problem, you have left out no important terms, either in the conception which you have formed of the duties and responsibilities which devolve upon the physician or in the estimate of your ability and determination to fit yourselves to fully discharge them. *Real* success, not that which the thoughtless sometimes name success, but such success as brings peace and contentment when the life work is ended, will come only from a right conception of the nature of the work one engages to do and in doing it, in all respects, well, and this, I assume, is the kind of success which each of you has determined to win.

No college course of study can be made to include more than a small part of what the student needs to learn to fit him for the physician's work. The heart needs training as well as the head and the purpose with which the science and art of medicine and surgery are put into practice should take precedence over the knowledge itself. He or she who seeks to learn the mysteries of the human body and the healing art and prostitutes that knowledge to ignoble ends falls to a depth of degradation which can be measured only by contrast with the honor which he deserves who rightly employs such knowledge. But the right *spirit* and *purpose* for using medical knowledge, if taught at all, can only be done by example and not by precept. It is as the aroma which pervades the atmosphere about the rose—the spiritual essence which surrounds the bodily presence and renders sacred the lowliest ministrations. It is the natural and invariable accompaniment of him or her who has a right conception of the functions of the physician when accompanied by the requisite learning and skill. Toward the attainment of it your time and thought need not be directed, for it is among the things that "cometh not with observation" but through a right attitude of heart and mind toward the work you have assumed to do, and if this is not already your possession no college curriculum can inculcate it.

What a college course can do is to thoroughly train you in all the knowledge extant of that which pertains to the processes of life in the human body—the phenomena of health, and the causes and effects of departures from it. In attempting to do this, medical colleges, in this country especially, differ greatly in the amount and character of the instruction and facilities for learning, provided the student.

Fortunately we are able here to open up to you every avenue of research. Your time and thought during the four years of study laid out for you in our curriculum can be fully occupied.

It has been the aim of the faculty of this department, now for many years, to provide the most complete and well arranged course of instruction possible for the medical student.

You will recognize that the physician has, first of all, to deal with the human body as he finds it. To him it is a complex piece of machinery, elaborate in structure and delicate in adjustment of part to part. The processes that must move in harmony for perfect action are numerous and interdependent. This body is a theatre in which all the forces known to us, natural and supernatural, have their part to play. We witness in the normal, living man the product of all these forces acting in wonderful harmony; the Creator's noblest work; that in which His power and intelligence has found its fit expression. We undertake to study the mysteries of this intricate mechanism, to understand its structure, its action; not only for the pleasure that it gives the finite mind to discover in some measure the plan governing the working of the infinite and so enjoy a sense of fellowship in the result, but with the avowed intent of aiding in the maintenance of that work by correcting that which by some mishap may go amiss in the orderly arrangement.

If you will glance over the studies laid down for you in our curriculum, you will see that first they are those which are designed to make you familiar with the mechanism and action of the body of man and the effects of his environment within the range of *health* or *normal being*—anatomy, histology, physiology, chemistry, hygiene; next a consideration of the causes which lead to *abnormal action* and the effects in structure they produce—pathology and the study of special diseases and derangements of function; and last attention is given to those methods which best *avert* or *check* the *causes* of perverted action or *serve to remove*, as far as may be, their deleterious effects—surgery, materia medica, therapeutics, and the practice of medicine generally. This is of necessity the general plan upon which any rational system of medical study must be formed and for it we claim no originality. But, building upon this plan, that course of instruction is most effective which lays its foundation broad and deep in all that pertains to the normal structure and function of the body. Anatomy, physiology, chemistry, and hygiene, then, are the foundation stones of medical knowledge, and just as in a building the height and durability of the superstructure is directly dependent upon the solidity of the foundation, so in like manner must an education be constructed if it is to serve its purpose and endure.

This medical college, which you have chosen for your alma mater, early won and has successfully maintained a reputation, surpassed by none in this country and equalled by few, for thoroughness of instruction and the superior facilities for acquiring knowledge, in these fundamental branches. To them I would first of all commend your earnest attention. Know well the stucture and action of the machine, the human body. It is the final product, the masterpiece of Nature's handiwork in the organic world. Be satisfied with no half knowledge. Be not content with disjointed scraps of information and picked up odds and ends of half-grasped facts. No "compendium of anatomy" or "essentials of chemistry" or "short-cut to the truths of physiology" ever made a pupil who could stand the test of a searching undergraduate examination—much less a physician, whose work could stand the test of the everyday requirements of his profession. The pupil who slights these foundation stones of medical knowledge and, while occupied with them, aims merely to slide through the requirements without a condition, will find his lamp has gone out for need of oil at some one of the many trying moments which his future has in store for him. With the members of no other profession, as with the medical, is it so needful that their minds be stored with the most minute and exact details of fact pertaining to that body which is the field for the exercise of their activities. The physician is the victim of emergencies. At any moment he may be called upon to bring into action all his knowledge. At such moments there is no time for the dissecting-room, the library, the laboratory. The skill, the deftness and the art of the practice, is, at such moments, determined, above all else, by the thoroughness with which he has pursued the science in these storehouses when the opportunity was at hand. At such times the broad and deep foundation breeds confidence and gives firmness to the advancing step. If you, therefore, wish to build securely; if you desire to feel at times the solid rock beneath your feet when treading paths, which as you will in time discover, are beset by many bogs and quicksands, you will give to these primary studies in the curriculum your serious thought and attention and let nothing beguile you into a hasty or superficial method of dealing with them. The riches of knowledge lie deep. Like gold and precious stones they have to be sought for and are obtained only by those who are willing to toil early and late. An accumulation of facts alone in medicine does not constitute knowledge no matter how exact and clear the apprehension of those facts may be; for facts like statistics may be made to lie, or in other words to serve any false theory of life or origin of disease. It is only by pondering over these facts, studying their adjustments and relationships that those underlying truths and principles are revealed which constitute real knowledge and give breadth to the understanding. That student makes little progress who does not delve deep enough with the subjects he encounters to catch some glimpses of the plan of the great designer, and become himself a witness of the unity and harmony that pervades all nature and is especially exemplified in the fields of research which occupy the physician's time and thought.

He or she who begins this course of medical study with serious purpose and clear apprehension and has acquired a comprehensive knowledge of the structure, evolution and action of the body, need have no fear of that which remains to be conquered in the fields beyond. The mind as naturally feels after it and assimilates it to itself as the opening bud absorbs the stimulus of the sun's rays. It follows as naturally as the day the night that he who knows the body well in all of its workings and the influences and conditions that favor its *normal action* should look with interest and quickened appreciation for all causes and conditions that effect it *unfavorably* and note the results that they produce. An interest in pathology and diseases and the influences that occasion them needs no other stimulus for its creation and growth than the right apprehension of *normal* being. I need not urge you therefore to devote to pathology and morbid anatomy your best attention also for only they who have not started right find such studies a burden, and for the future of that class of students there is but little hope.

It is in this intermediate field of medical study—the history of diseases—the study of pathological phenomena—that the student of medicine performs his highest service to humanity. Only when it is known what are the causes which lead to diseases can they be successfully combatted. Attempts at practice along any other line are empirical and in a large measure fruitless and too often absurd and ridiculous, and the progress of medicine has been hindered in the past by a failure to engage in pathological research. The science of medicine has progressed ten fold more rapidly in the last fifty years than in any other previous period of equal length and this is in a large measure due to the rigid inductive method of research which has been applied to the origin and natural history of diseases.

The more we become familiar with the avenues through which disease gains access to the body or the means by which the pure streams of normal life become polluted the better are we prepared to guard against them. The relation of the physician to his fellow man is gradually, by almost imperceptible degrees, changing from that of an occasional attendant in his hours of weakness and ill-being to that of guardian of his health. Through the influence of pathological research preventive medicine, or the arrest of the causes of disease, has taken a prominent place in the physician's duties of to-day and the indications are clear that this function will increase, for it is in the direction of his greatest usefulness. He who undertakes to restore to health one who is already stricken often assumes a task uncertain in its results, and the time, patience, and devotion given to it oftentimes fail of their immediate purpose, and at the best his powers are limited to but few of such attempts, but he who is able by deeper insight to control the miasm or contagion which occasioned the disease, saves many lives, and proves himself the wiser man and greater benefactor. The study of the natural history of diseases gives one this greater capacity for helpfulness and demands, and is deserving of your most earnest attention.

To the so-called "practical branches" of study which occupy the last third of our medical curriculum, it is seldom necessary to direct the attention of medical students or urge upon them their importance. Surgical operations, clinical cases and methods of diagnosis and treatment from their very nature secure for themselves abundant patronage. Perhaps the time and thought of medical students is not always distributed among the subjects which occupy this period of study in rightful or judicious proportion, in view of the future needs of the practice in which you are likely to engage. Too often the student allows the scenic effects of the amphitheatre to take precedence over the instruction it is capable of imparting.

The future lives of the most of you will be occupied for the greater part in such practice as presents no dramatic side to the spectator but where equally high skill is, nevertheless, required in adapting means to ends to effect a cure or save your patients' lives. Let the clinical work in all departments therefore claim its due proportion of your time and thought, and remember, that all other things being equal, he is the safest physician or surgeon whose thought is comprehensive and who is able from experience when considering a special case to pass in mental review all manner of perverted bodily conditions that might give rise to the symptoms present. He alone can maintain this broader conception of disease and so reach surer conclusions in diagnosis and treatment, who has guarded himself during his student days from narrow channels of observation.

I am influenced to these remarks from having recognized and deplored, as have other members of the faculty, a disposition on the part of many medical students to begin to ripen too early into specialists. Medical fruit does not bear this forcing process any better than fruit of any other kind, and when it is attempted the product is usually dwarfed and ill-flavored. Specialties in medicine and surgery are among the necessities of modern increase in knowledge, and the development of peculiar skill is thereby alone possible, but just as they are later developments, so should they have passed through all the previous stages of that development to be a perfect product. Out from the general practitioner was the specialist evolved and no specialist is deserving of the distinction until he is first a good general practitioner and has demonstrated his efficiency in that field. Many are the blunders which modern practice has committed because of the disregard paid to this fitness for special work. The profession at large and educators in medicine are at fault for permitting this state of things, but the medical student cannot be wholly absolved from complicity in the wrong done to humanity when he attempts a short cut to lofty service which for its proper discharge requires a longer pupilage.

The assertion has often been made, and many of you have heard it, that, by reason of its location in a small inland town, the clinical instruction furnished at this medical college is meagre and wholly inadequate. Those who make this assertion are either misinformed as to the facts or biased in judgment concerning them. We have annually presented to our students in the clinical amphitheatres about two thousand separate cases; representing a great variety of diseases requiring medical or surgical treatment. A former professor of surgery in this institution, whose experience had been very extended before coming here, is upon record in his annual report to the Regents as saying that at his clinic was presented "almost every form of disorder known to surgery," and since his time the number of patients attending our clinics annually has doubled and the facilities for caring for them have greatly improved. While the sum of patients coming to our clinics may be small as compared with the numbers reported in attendance at certain hospitals in large cities, it must be remembered, that for purposes of clinical instruction our hospitals possess certain advantages unequalled by any other in this country. They were established primarily for the purpose of affording this practical instruction to the medical student. Each patient coming here does so on the distinct understanding that he or she is to be fully utilized for this purpose. They are entirely at the disposal of members of the clinical staff and each case can be used for demonstration as far as in their judgment it is deemed advisable. In no other hospital in this or any other country, as far as I know, does the undergraduate student have such free access, as here, to the hospital wards, or is given so good an opportunity to become familiar with all stages and symptoms of the patient's disease from personal observation. Nowhere is he allowed to assume more personal responsibility in the management of cases, by which alone skill in treatment is acquired. These superior opportunities can be afforded only in a hospital of this unique character, and it is by reason of such opportunities that the graduates of this institution become so drilled in diagnosis and treatment as to compete successfully for hospital positions with the best graduates of the so-called "large clinical schools."

It is a gross misconception of the function of the clinic as a factor in medical instruction to look upon it as a complete *museum* of diseases or surgical cases. Ten years' attendance upon the largest hospital clinic of the world would exhibit to the student but a small proportion of the diseases that human flesh is heir to, and after such prolonged pupilage the very first case he would meet in personal practice would in all probability present features differing from anything he had heretofore seen.

What the clinic can and ought to do is to teach the best methods of observation and inquiry; how to deal with and manage patients; how to make an accurate diagnosis and become skilled in the use of the instruments employed in doing it. If the number and variety of cases attending a clinic are sufficient to afford the student the opportunity to perfect himself in all of these requirements, the clinic has fulfilled its mission in his education. In furnishing these opportunities for needed instruction our clinic has for the undergraduate no superior in this and I doubt if it has in any other country, and it only remains for you when you reach that period in your course to make the best use of the facilities offered you. You will not find them wanting in what is necessary to fit you for the duties of practice.

In thus emphasizing, as I have attempted to do, certain features of our medical curriculum I would not have you think that those branches I have failed to refer to are of less importance. Each is an essential factor in a well rounded knowledge fitting you for the duties of this profession. But a well constituted medical curriculum must have a vertebrate structure and I have sought to direct your attention chiefly to the main branches of study out of which a thorough medical education must develop. All else that we have provided for in our curriculum are the necessary accompaniments of these as the roots, twigs, and leaves are essential to the growing trees.

But the content of any prescribed medical curriculum, no matter how complete and well devised it may be, is, as I have already intimated, too limited in its range of subject matter to wholly occupy the time and thought of him who wishes in life to fulfil the highest mission that this calling opens up to him

There are other thoughts and subjects that should occupy you at times, even in these, your student days, aside from those that have reference to your daily tasks.

While building your ship within the harbor you must cast your eyes seaward and consider on what waters it is to be launched; what is the service it is to render; on what mission will it be bound, and what are the storms it will encounter. What is the physician's true relationship to his fellow men, and what the peculiar function that devolves upon him in the body politic? What are the activities that are especially his in the processes leading on to the fulfilment of man's destiny?

The physician is the referee in all that pertains to our physical welfare. His patrons are guided in their conduct by his opinions; their living is largely determined by his views. Physical welfare is a product of the harmonious action of all the forces that operate in man, and constitute his being. In studying the processes of physical degeneracy in man the physician is forced to recognize other causes at work than those of a chemical or material nature. Daily is he called upon to cope with disease which is but the natural consequence of riotous living on the part of a remote ancestor of his patient. Erroneous personal habits and the faulty customs of society number their victims by the myriads who fly for succor to the physician's door. As the years roll on and the long procession of lame and halt and stricken ones, upon whom he has been called to minister, passes in review before him in memory's pictures, he cannot but recall how helpless he has been in many instances to offer more than temporary relief, because he was not present to trample out the evil at its source. He realizes that prevention is the only potent, the only possible cure for a large majority of the ailments for which his help is sought, and if he is true to his profession and the highest duties it imposes he will do all in his power to bring about reform, so that posterity will find that relief which the sufferers in the present generation cannot have.. His voice will utter and his life exemplify the truth as it is revealed to him no matter what the opposition it has to meet or the self-sacrifice it demands.

I have already said that which chiefly characterises the science of medicine today is the indefatigable search for the causes of disease with a view to their prevention. Already upon this expedition notable victories have been achieved. By observing such precautions as the science of medicine has discovered and made known, epidemics of cholera or yellow fever, extensive outbreaks of smallpox, scarlet fever, diphtheria, or typhoid fever are no longer possible. They are destroyed in their infancy and will in time cease to be born, when knowledge and experience ripen into wisdom and the manner of living of entire communities has assumed fixed habits which afford no foothold for bacterial invaders. In waging this warfare with contagious and infectious diseases the physician's duty does not cease with the discovery of the cause. As the guardian of health you will be in duty bound to maintain the fight until the community is aroused to concerted action in providing adequate means for protection and self-preservation. The recent discoveries of medical science declare with startling emphasis that no man is a law unto himself, but his neighbor has a right to inquire into his manner of living and to determine to some extent what it shall be. Out from your duties as physicians, therefore, naturally grow relations to the state and to society. Your opinions find expression in legal enactments and the problems of sociology will be forced upon you for solution.

To these requirements you must adjust yourselves if you would discharge in full the function you have assumed, for you must decide what laws are needed for public safety and what are the habits and customs of man that arrest his progress toward perfect manhood, or start in him the processes of decay.

This search for causes of disease will oftentimes lead you far beyond the boundaries of the material world. The laboratories of pathology and bacteriology have traced many a morbid process to its source and made plain the way of escape from its continuance or repetition. But there are potent etiological factors in many disorders which you will be called upon to treat that will elude your test-tube or your microscope.

Look up from and beyond these demonstrable material causes and you will many times discover that your patient was already half-sick before he became a prey to the ubiquitious parasite or any morbid tissue changes could be discovered. You will then recognize that your work is but half done when you rid the soil, which has in some way become vulnerable and defenseless, of the invader you have discovered. Then you will ask yourselves what are the causes and influences at work that have brought the resisting powers of man's organism to this feeble state? As the guardians of health and the enemies of disease in whatsoever form it is presented or along whatever avenue it threatens approach, it is not only your privilege but your duty to enter any and every field of human action in the effort to trace the streams of morbid influence to their source. There should be no artificial or arbitrary boundaries reared either by yourself or others conflicting with this your manifest function

Intemperance in all its forms, licentiousness, faulty methods of education, the maladjustment of our lives to mental and moral laws are equally if not more potent causes of disease than the more immediate material or physical causes, and the physician must needs take them into consideration and deal with them intelligently and honestly for they cannot be excluded from the solution of problems that arise regarding prevention of disease. This is the campaign upon which we now as a profession have fully entered, and from the responsibilities of which we must not shrink no matter where it leads us.

I do not flatter myself that, in asking you to take with me this glimpse at your present occupations, your future relations to your patients, to society, and to mankind, I have widened your horizon or directed your attention to things upon which you had not already pondered. But I know it is helpful, at times when we are preparing to enter upon a journey, to hear a word from those who have progressed somewhat upon the way. And if I have chosen, in this brief sketch of the topography of the country over which you are about to travel, to allow my eyes to rest upon its remoter regions rather than those immediately about us, it is because I know your younger feet will travel farther along the road to the promised land of professional achievements than ours have done or we can ever hope that they may do. I would have your minds and hearts awakened to the rich rewards which the medical profession, rightly understood and followed, offers you. There is no higher calling, there is no nobler work than that of the physician when rightly and broadly apprehended and its duties faithfully discharged.

MALIGNANT NEOPLASMS.*

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A NEOPLASM is defined by DUNGLISON as a new formation or tissue product of morbid action. A malignant neoplasm would, therefore, mean a new formation of such a character as to threaten the destruction of the person. I shall use the term with reference to the so-called cancer, which has been commonly used to express the existence of carcinomatous and sarcomatous growths. This is a misnomer from the fact that cancer means a crab, and has no reference to the pathological conditions existing in these diseases which have been called cancer, either on account of their hideous appearance or because of the imaginary resemblance of the large veins surrounding these malignant ulcers to the claws of the crab.

Fifty years ago all malignant tumors were embraced in the one term carcinoma; since that time no small amount of confusion has been caused by the multiplicity of names which have been applied by various writers to different forms of malignant neoplasms.

They have been designated as scirrhus when they were hard; encephaloid when they resembled brain; when discolored they were designated as melanotic; if ulceration had taken place, they were frequently termed phagedenic or rodent according to the appearance; colloid when their contents resembled glue; cauliflower when they happened to resemble that familiar vegetable; and so we might go on multiplying these names which have no scientific or practical bearing on the study of this disease. Recent authors have greatly simplified this subject by dividing malignant neoplasms into two principal groups—carcinoma and sarcoma—according to their histologic origin.

Notwithstanding the etiology of malignant neoplasms has been carefully investigated and discussed for centuries, the real cause has not yet been discovered. It is true a great deal has been ascertained as to their source. According to SENN in his masterly work on "The Pathology and Surgical Treatment of Tumors," "carcinoma is an atypical proliferation of epithelial cells from a matrix of embryonic cells of congenital or postnatal origin," while "sarcoma is an atypical proliferation of connective-tissue cells from a matrix of fibroblasts of congenital or postnatal origin." The matrix or original starting point of carcinoma is in the young epithelial cells which, if displaced during gestation, would give rise to a congenital neoplasm, or, if displaced by an accident after birth, such as a burn or other traumatism would result in a postnatal growth. Sarcoma originates in connective-tissue and has its beginning in the young cells of the fibrous structures of the economy. Like the carcinoma its matrix may be either congenital or postnatal.

These displaced embryonal cells may remain passive for months or years before they take on an active condition. The cause of delay in activity in such cases is believed to be physiologic resistance: that is to say if the general health of the person is at or above par, the tendency is to resist the development of these pathologic growths; but when the general health is reduced below par the tendency is for the development of these neoplasms, the rapidity depending largely on the condition of the patient. Local irritation, whether of traumatic or inflammatory origin is undoubtedly a cause that leads to the development of malignant neoplasms, but the general system, or the "physiologic resistance" is believed to be below par, when such irritation is followed by a malignant growth. In addition to this loss of physiological tension there must be a congenital or postnatal distusbance of either the embryonal epithelial or connective-tissue cells, before a local irritation will be followed by a malignant neoplasm.

Investigators in Europe and in this country have looked in vain for the microscopic origin of cancer. The nomadic character of these cells, which enable them to leave the primary neoplasm and migrate to other parts of the economy, and there establish new centers, was believed by some to indicate a microbic condition; but more recent investigations have shown that cancer cells take on an ameboid condition and are thus enabled to travel from the original growth to distant parts of the system, thus giving rise to multiple points of infection. One of the most important arguments against the microbic origin of carcinoma, as pointed out by SENN, is that "pathologic microbes act upon the tissues with which they are brought in contact, and the proliferation results in cells which correspond in type with the cells acted upon the microbes." You will readily understand by this that where there is a microbic invasion of the economy, any of the structures whether epiblastic, mesoblastic, angioblastic, or fibroblastic, may be caused to multiply as a result of the irritation produced by this invasion, whereas carcinoma is composed of a multiplication of embryonal epithelial cells, in an alveolated stroma of connective-tissue. It is true the multiplication of carcinomatous cells takes place by karyokinesis just the same as cell multiplication of any other structure; but it must be remembered that in carcinoma karyokinetic changes are confined to the epithelial cells alone while in changes due to microbic origin they are extended to the cells infected by the microbes, which may be of one or many tissues.

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*Read before the WAYNE COUNTY (Detroit) MEDICAL SOCIETY.

Like carcinoma, sarcoma is produced by karyokinesis, except that these karyokinetic changes take place in a matrix of fibroblasts, resulting in the multiplication of connective-tissue cells. By this you will observe that the process of growth in either form of these malignant neoplasms is the same, the distinction between the two being that carcinoma is confined to an abnormal development of the epithelial cells, while sarcoma is limited to the pathologic development of connective-tissue cells.

Either of these growths may be modified by the surrounding conditions, the results of which have raised no small amount of confusion in the study of these pathologic conditions. For example, most authors designate the different varieties of carcinoma as scirrhus, encephaloid, colloid or epithelioma, according to the general appearance and location of the malignant growth; while the fact is they all belong to one class and, as SENN says, "Differ only in their structure from their location, the type of cells, or the kind and degree of degeneration of the tumor tissue."

Likewise sarcoma is spoken of as round-celled, spindle-celled, giant-celled, mixed-celled, melano, alveolar, angio, endotheliomatous, glioma or psammoma, according to the clinical or microscopical appearance of the growth or the tissue affected.

Carcinoma may occur wherever there is a disturbance in the embryonic epithelial cells, but is generally found on the lip, in the breast, on the nose, forehead, uterus, labia and penis, and occurs most frequently between the ages of forty and seventy years.

Sarcoma occurs where there is a disturbance of the connective tissue that effects its embryonic cells, and unlike carcinoma, usually occurs between the ages of fifteen and thirty-five years.

In this connection it is well to remember that mature normal cells do not take an active part in the formation of a malignant tumor whether it be carcinoma or sarcoma.

In many cases the differential diagnosis between carcinoma and sarcoma may be readily determined by the age and the location, yet we are seldom warranted in venturing a diagnosis without first having had the growth submitted to a careful microscopic examination.

It is still a mooted question regarding the development of nonmalignant neoplasms into those of a malignant type.

ROGER WILLIAMS, of Preston, England, contributed an excellent article on this subject which was published in the September (1896) issue of *The Annals of Surgery*, in which he says, in speaking of the origin of malignant from nonmalignant uterine neoplasms, that "in four-fifths of those under my observation the two neoplasms were quite separate and independent of one another." "In the remaining cases the coexisting neoplasms were much more closely associated."

Senn says that "every carcinoma has a benign stage, no matter where the matrix may be located; the cells composing it are at first isolated from the vascular tissues and the carcinomatous stage begins with cell-migration." There is certainly no question but what a benign tumor may always remain nonmalignant, but may become malignant: First, by reducing the physiologic resistance below normal. Second, by setting up sufficient irritation to excite the heretofore latent epiblasts or fibroblasts into active cell proliferation. In either case a malignant growth will be the result.

In a similar manner traumatisms may be followed by malignant growths by acting as an exciting cause which arouses into action the latent embryonic cells which when once stimulated into activity developes into a malignant neoplasm.

From a scientific standpoint, it is highly interesting to determine beyond controversy whether a benign growth developes into a malignant neoplasm or whether it acts only as the exciting cause in such development. To the practical surgeon it is of little or no importance for in either case his duties are the same.

Before leaving this part of the subject it may be interesting to call attention to the development of sarcoma in connection with inflammatory disturbances. In this connection, I wish to briefly refer to two cases of chronic appendicitis that have been referred to me during the last eighteen months by medical friends, that were followed by sarcoma. In the first case I made an ileo-colostomy with the **Senn** bone plates with the most happy results, the patient being relieved for some six or eight months but succumbing to the malignant growth in due time.

In the second case I made an exploratory incision and found the conditions such as to preclude further operative interference, and was obliged to leave the poor fellow to his fate.

Doctor John B. Deaver, in his recent work on appendicitis, guards the surgeon against confounding cancer of the cecum with chronic appendicitis, but does not refer to it as a possible complication which may accompany appendicitis, the same as any other inflammatory disturbance. In their early stages both carcinoma and sarcoma may be taken for nonmalignant neoplasms. It is a common occurrence for patients to be sent to the hospital suffering from a syphilitic ulceration which has been diagnosed as cancer, which a microscopic examination, backed by a thorough course of specific treatment, demonstrates beyond a doubt its specific origin. The same may be said of sarcoma particularly when it is located along the chain of inguinal glands, and especially is the diagnosis confusing when there has been a history of syphilis in the case. In either instance, delays are dangerous. If permanent relief is expected in a case of either carcinoma or sarcoma, the earlier the diagnosis and operation the greater the chances for recovery.

I regret that many practitioners when they are consulted by a patient in refence to a neoplasm advise him to let it alone. Gentlemen, it would be just as reasonable for you to advise the firemen to let a fire alone when you see it in a building, for fear it would burn the building down if it is disturbed. It is this practice that has driven many a patient from a regular practitioner to the quack, who has reaped a rich harvest by curing the patient of alleged cancer when it was simply syphilitic ulceration, or in cases where the abnormal growth was really malignant there has resulted unpardonable delay, which has lost the patient every opportunity for recovery.

In proof of this assertion allow me to quote from that Nestor of American surgeons, the late **Doctor S. D. Gross**, who, in his last paper read before the second annual meeting of the American Surgical Association, held at Cincinnati, June, 1883, on "The Value of Early Operations in Morbid Growths," said: "A patient laboring under a serious morbid growth may consider himself as peculiarly fortunate if, in the early stage of his troubles, he falls into the hands of an intelligent, upright, conscientious physician. Such a man will not hesitate to express his honest convictions. He will not esteem it a disgrace to say to his patient, your case is one I do not comprehend; it is an uncommon case; it is a case beyond the grasp of my limited experience; go and consult some one whose opportunities of observation have been more extensive; and be sure to lose no time in carrying my advice into effect. The knave, on the other hand, will do all that he can to mislead his patient, and lull his fears by assuring him that his disease is of no importance, or by telling him that it will either remain stationary or in time, disappear spontaneously. He is afraid to tell the truth least by showing his ignorance he would lose prestige, and thus damage his practice. To cap the climax of his impudence, he may even assure his patient that he is fully master of the situation, and that he knows as much about the nature of the case as the wisest and most experienced surgeon in the land. Now, it is precisely men of this stamp, and their name is legion, that do the mischief. Ignorant of the art of diagnosis, or incapable of telling the truth, they allow the case to proceed from bad to worse, until the poor patient, in a fit of desperation, seeks as a *dernier resort* relief at a more enlightened and more honest shrine." The examination now made reveals the fact that the disease has made hopeless progress, and that any operation, if proper at all, can afford only temporary relief.

This brings us to the consideration of the treatment of nonoperative malignant growths. In the September (1896) issue of *The American Journal of the Medical Sciences*, DOCTOR WILLIAM B. COLEY, of New York, in speaking of "The Therapeutic Value of the Mixed Toxins of the Streptococcus of Erysipelas and Bacillus Prodigiosus in the Treatment of Inoperable Malignant Tumors," has attempted to show "that the method of treatment rested upon a rational basis, namely the considerable number of cases of undoubtedly malignant tumors that had been permanently cured by attacks of accidental erysipelas. The writer's own observations covered the whole field from the accidental erysipelas to the mixed toxins. He was led to take up this line of investigation from having observed a small, round-celled sarcoma of the neck, five times recurrent, and given up as hopeless, cured by an attack of accidental erysipelas, patient having been found alive and well seven years afterward. His first series of ten cases was treated with repeated injections of living bouillon cultures, with the view of producing erysipelas. The unmistakable improvement that followed the repeated injections, even when no erysipelas was produced, especially in sarcoma, suggested that a portion, if not all of the beneficial influence was due to the toxins instead of the living germ, and this led to the experiments with the toxin alone. An analysis of the cases treated showed that forty-eight were round celled sarcoma, thirteen spindle celled, seven melanotic, two chondro-sarcoma, three mixed celled, fourteen sarcoma—special type not known. Total number of cases of sarcoma, ninety-three; carcinoma and epithelioma, sixty-two cases; sarcoma carcinoma, ten. Of the cases of sarcoma, nearly one-half showed more or less improvement; the variety that showed the greatest improvement was the spindle celled; that which showed the least, the melanotic. Next in order of benefit was the mixed celled—round and spindle; then round celled, while osteo-sarcoma closely approached the melanotic in showing but little change. In a series of nine cases of melanotic sarcoma, no improvement was noticed in six, very slight in three. Most of the cases of osteo-sarcoma failed to respond to the treatment, many showed slight improvement, and one case, a very large osteo-chondro-sarcoma of the ilium, apparently disappeared and the patient remained well for nearly a year when a recurrence occurred. One case of round celled sarcoma of the neck, of very rapid growth, showed very marked decrease during the first week's treatment, after which time it continued to grow in spite of large doses of the toxin."

His conclusions, deducted from a study of one hundred and sixty cases treaed by toxins, are:

"(1) The mixed toxins of erysipelas and bacillus prodigiosus exercise an antagonistic and specfiic influence upon malignant tumors, which influence, in a certain proportion of cases, may be curative.

(2) This influence is slight in most cases of carcinoma (including epithelioma); most marked in sarcoma, but varies with the different types, the spindle celled form showing by far the greatest influence.

(3) The action of the toxins is not merely local in character, but systemic.

(4) The toxins should be used only in clearly inoperable cases, or after primary operations to prevent recurrence.

(5) The results will vary greatly with the strength of the preparation, the most virulent cultures giving the best results."

It is certainly gratifying to receive so much encouragement from so eminent an observer as Doctor Coley in the use of erysipelatous toxins in the treatment of nonoperative malignant neoplasms; for of all the cases the surgeon is compelled to leave to their inevitable fate, none are more sad than those afflicted with an inoperable malignant growth. While my limited personal experience, in harmony with that of many others, has led me to look upon erysipelas toxins as a therapeutic agent in the treatment of malignant growths, with dissatisfation and distrust, yet if they will save the lives of but one per cent. of these inoperable cases of cancer, I should feel it my duty to give it a fair and impartial trial.

It is gratifying to note that Doctor Coley advises the use of toxins *only* in clearly inoperable cases, or after primary operation, to prevent recurrence.

Before closing, I feel it my duty to call attention to the radical treatment of malignant neoplasms, in which I beg your indulgence, for once more referring to Professor Gross' paper, in which the distinguished author said: "The value of early surgical interference in morbid growths, especially the malignant, has long been recognized by writers and teachers; but, unless I greatly err, it has not been discussed with that degree of force and emphasis to which its intrinsic merits entitle it. The great reason for the removal of tumors in the early stages of their development may be thus stated: (1) The less risk of shock and of hemorrhage; (2) The more effectual riddance of the diseased structures; (3) The diminished probability of septicemia, or blood poisoning; (4) The avoidance of unsightly scars; and (5) The less risk of recurrence of the morbid action, either at the seat of the operation or in other parts of the body. These propositions are so self-evident that any formal discussion of them seems to be out of place."

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A FEW IDEAS CONCERNING CHLOROFORM AND ETHER.*

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That the action of a remedy in one case, or in one hundred cases, or in one thousand cases proves precious little as to the true value of that remedy is nowhere clearer shown than in the use of chloroform and ether for the purposes of general anesthesia. For half a century these two substances have been used the world over, for the purpose mentioned, and yet today the true action of each is still a subject for warm and even acrid discussion.

Only eight years ago the first so-called Hyderabad Chloroform Commission met and prosecuted what seemed to be the most complete and unbiased experiments ever attempted till then, for the purpose of discovering the true action of chloroform upon the human organism. This commission was held under the auspices and by the generosity of the Nizam of Hyderabad, a rich governor of one of the states of India, and was made up of careful and competent experimenters.

Their report was sent to the different colleges throughout Europe. Many of these colleges took strong exceptions to the provisions contained in it. This same governor of Hyderabad then said he would "repeat, continue and amplify" the previous line of experiments and summoned a new commission for the

* Read before the Detroit Medical and Library Association.

purpose. He also sent five thousand dollars to *The London Lancet* to pay the expenses of any representative that journal might choose to be a member of the commission. After about two months of experimentation a report similar to that of the first commission was agreed to.

The most important conclusions from these experiments were that when chloroform killed, it did so, not by interference with the action of the heart, but by interference with the act of respiration. In every fatal case the respiration is arrested before the heart's action is stopped. The next most important conclusion was that blood pressure always is lowered during the inhalation of chloroform; and not by cardiac failure but by depression of the vasomotor center.

These two important findings were opposed to the general belief that had existed up to that time and were energetically opposed by many experimenters throughout the world. Today, however, the truth of these statements has been corroborated by the experiments of careful operators, among the foremost of whom may be mentioned our countrymen H. C. WOOD and H. A. HARE.

The practical lesson to be drawn from them is that in the administration of chloroform the respiration is to be watched closely. It is not sufficient that one should be content to withdraw the chloroform after the respiration has become greatly interfered with. It should be withdrawn as soon as any irregularity of breathing has shown itself and be given again slowly only after natural breathing has been established.

Everybody is agreed that chloroform should be given very slowly at first. The following words of BOWDOIN are to the point: "The patient lying upon his back, his chest is bared, a compress placed over his mouth, and two, three or four drops of chloroform poured upon it. During the first few breaths, and during these only, the compress is applied so as not to close completely the nostrils and mouth. The face should be unceasingly watched for signs of impending syncope. In fifteen seconds the chloroform will have evaporated when four or five drops more are then allowed to fall on the center of the compress. This maneuver is repeated about every half-minute."

ROBERT BELL, of Glasgow, thinks that all dangerous symptoms from chloroform administration are due to overdosing. He gives the following chain of symptoms as always occurring when danger is present: (1) coughing, (2) gasping, (3) choking, (4) struggling. He thinks that on the appearance of coughing, more air admitted with the chloroform will prevent further trouble.

RICHARD GILL's ideas given in an editorial of *The Journal of the American Medical Association* in June, 1895, are as follows: "The pulse may be ignored, but the respiration must be assiduously watched. How do we know that the patient is unconscious? By the alteration which the breathing undergoes; it is no longer controlled by the will; it has become automatic. But the patient being unconscious, how do we measure the amount of chloroform which is safe for the purposes of continued anesthesia? By the size of the pupil. Sometimes the pupil is large and sometimes small, when unconsciousness is induced. The large pupil may mean narcosis; the small pupil is always the sure sign of safe anesthesia. The small, contracted or pin-point pupil is then the measure of anesthesia, and is unquestionably the safest sign to trust; for during anesthesia and especially during prolonged anesthesia the respiration may become imperceptibly labored, and its new character may escape detection, the more particularly by inexperienced administrators. But while breathing is becoming impeded, the pupil is slowly dilating and losing its sensitiveness. This change in its character indicates that the extreme limit of anesthesia has been exceeded. The stage of narcosis has been entered upon and it is the pupil, not the respiration that has given the signal. When the patient's position is altered, as from the supine to the lateral, the breathing becomes obviously changed. To rely entirely on the respiration would in this new condition lead to a return of consciousness. Here the pulse is of use in determining the right amount of chloroform. Is the pulse of no further service? Undoubtedly. In prolonged operations it is the first to give signs of depression, and must be watched with care and attention, so that when it begins to fail, those means may immediately be put into action which are best known to maintain the flagging energies of the patient. It is thus that collapse is anticipated and if not prevented, in some degree mitigated."

These statements may be taken to represent the best ideas of the medical world on this subject at the present time. Avoidance of reflex irritation by having the patient completely anesthetized before beginning an operation is of the greatest importance. Neglect of this precaution has probably been the cause of danger more often than any other one thing. When danger does threaten the ordinary means of restoration should be undertaken without delay. These are removal of the anesthesia, dragging forward the lower jaw, lowering the head, artificial respiration and compression of the abdominal aorta. Drawing the tongue sharply forward to excite breathing by reflex irritation and clearing mucus from over the windpipe when present are important. To make these latter always possible some kind of a gag should be at hand. Forcible dilatation of the anus is said to be of great value.

Some physicians think that alcohol given a short time before the administration of chloroform lessens danger. **Rosenberg** thinks the respiratory act is affected by the irritating quality of the anesthetic acting upon the peripheral terminations of the trigeminus in the nasal mucous membrane. He says that by applying cocaine to this membrane before giving the anesthetic this danger is eliminated. This certainly sounds plausible. It has also in its favor the general stimulating effect of the drug. Another point not generally understood is that a quiet room aids materially in developing anesthesia. It seems almost superfluous to add that an empty stomach on the part of the patient lessens danger to him and discomfort to all about him. Artificial teeth, tobacco, et cetera, should be removed before giving an anesthetic.

Ether as an anesthetic is more bulky, slower in its action and apt to be followed by more disagreeable symptoms than chloroform. Among the latter may be mentioned pneumonia, bronchitis and nephritis. These objections would count for little though if its partisans could make clear to the profession their claim that it is a safer anesthetic than chloroform. Ether probably kills by a reflex irritation from some point of the respiratory tract. **Vallas**, of Lyons, France, a decided partisan of ether says ether and chloroform have been used concurrently at Lyons. He says that chloroform at first was used almost entirely until the occurrence of five or six deaths within a short time caused it to give way to ether. At Lyons a regulating inhaler is always used. Afterward giving statistics he quoted one set where the deaths from ether were one in 4,860 cases, while in case of chloroform the death rate was one in 1,236 cases, a ratio of one to four in favor of ether. Another Frenchman, **Jouillard**, gives one death in 14,000 for ether and one in 3,000 for chloroform. A ratio of about one to four and one-half in favor of ether. Another record gives a ratio of one to three and one-half in favor of ether. Saint Bartholomew's hospital report gives about this ratio.

These reports would seem to be very convincing evidence if statistics could always be depended upon. Unfortunately such is not the case. A few years ago **Doctor Weir**, of New York, tabulated as many cases of deaths from ether inhalation as he could trace in the hospital and private practice of New York City. He found that the proportion was one death in 2,000 such cases. This is a death rate greater than that given for chloroform in several of the reports given above. An accurate report of deaths from ether is a difficult thing to secure on account of the long time that often elapses between the administration of the ether and the death of the patient.

It might be well to mention that, during the war of the rebellion, **Doctor Hunter McGuire** observed 28,000 chloroform administrations without a single death. **Surgeon Major Lourie**, of England, records 50,000 cases without a death. So much for statistics. **Hare** and **Thornton**, of Philadelphia, in a paper on "The Action and Safety of Chloroform," reported in *The Journal of the American Medical Association* (1893), ask themselves this question: Under what circumstances is the surgeon to use chloroform in preference to the less dangerous anesthetic ether? They answer as follows: (1) In hot climates where ether is inapplicable and where free circulation of air increases the safety of the patient. (2) Chloroform may be used whenever a large number of persons is to be rapidly anesthetized as on battlefields. (3) Its employment is indicated in cases of Bright's disease requiring the surgeon's attention, owing to the fact that anesthesia may be obtained with so little chloroform that the kidneys are not irritated, whereas, ether, because of the large quantity necessarily used, would irritate these organs. Quantity for quantity ether is, of course, the less irritating of the two. (4) In cases of aneurism or great atheroma of the blood-vessels where the shock of an operation without an anesthetic would be a greater danger than the use of the anesthetic, chloroform is to be employed, since the greater struggles caused by ether and the stimulating effect it has on the circulation and blood pressure might cause vascular rupture. (5) In children or adults who already have bronchitis, or who are known to bear ether badly, or in other words, have an idiosyncrasy to that drug, chloroform may be employed. (6) Persons who struggle violently and who are robust and strong are in greater danger from the use of chloroform than the sickly and weak, probably because the struggles strain the heart and tend to dilate its walls.

These investigators, it will be noticed, take it for granted that in ordinary cases ether is a safer anesthetic than chloroform. On the other hand the second Hyderabad Chloroform Commission, after prescribing a routine method of administering chloroform, which is practically the same as that given earlier in this paper, says: "The Commission has no doubt whatever that if the above rules be followed, chloroform may be given in any case requiring an operation with perfect ease and absolute safety, so as to do good without the risk of evil."

Who can decide when physicians disagree? In this case Father Time will play an important role. In the meantime we can observe the scriptural injunction to hold that which is good by using drops at the beginning and watching first the respiration, second the pupil, and third the heart when we administer an anesthetic.

SOME POINTS IN MODERN TREATMENT OF TYPHOID FEVER.*

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THE subject of my paper is a well-worn one, but still one which should be of some interest to the profession in the Upper Peninsula where we have almost continuously with us cases of typhoid, more or less epidemic during the fall months, and isolated cases every month in the year.

It is not within the scope of this paper to refer *in extenso* to the etiology, morbid anatomy, et cetera, of the disease, further than to briefly outline some of the pathological conditions present, and the effect of such conditions in a typical case of typhoid, in order to more intelligently discuss the treatment.

We have in typhoid fever an infectious disease, caused by a specific germ, the bacillus of EBERTH, which is constantly present in the lesions formed in the intestines, the chief seat of the morbid changes being in the glands of Peyer in the jejunum and ileum, and in the adjacent mesenteric glands (the changes in the latter being secondary to those in the intestinal mucous membrane), and these changes consist in a gradual infiltration, necrosis and granulation of the glands attacked, and as a consequence there is also a general catarrhal condition throughout the large and small intestines, with epithelial desquamation. As an immediate result of these lesions we have the production of a ptomaine, the typhotoxine, which enters the general circulation, producing general intoxication, that is, fever, chills, headache, et cetera, which may be more or less constant or explosive. The local effects of the bacillus typhosus is non-destructive to all other tissue except the glands involved. Bacteria cannot live and multiply on the products of decomposition, as they require for their sustenance dead, but undecomposed albuminoid substances. As soon as the supply is exhausted, the germs starve and perish. Typhoid furnishes us, therefore, an example of *self-limitation* in disease, for here we find limitation of favorable pabulum. The pathological picture presented to us in the lesions of typhoid fever is similar to the local and general phenomena of inflammation or phlegmon, but with this difference, namely, the fact that the infection of the typhoid bacillus is not followed by suppuration as the direct result or consequence of the germ. HOLMES says that after infection by the typhoid bacillus, a definite train of symptoms usually follow, which *does not include suppuration.* Complications are due to infection by other bacteria which are not essential but only accidental to the typhoid state. The invasion of the typhoid bacillus produces changes in the lymph glands, and in the intestinal tract which diminish their power of resistance. Therefore secondary invasion by pathogenic, or disease-causing bacteria, is a simple process. Many of these pathogenic germs are *facultative parasites,* that is, parasites who live on dead animal or vegetable matter, but who are able to live on their host under favorable circumstances. Normally, these parasites are always found in man, and live on the contents of intestines. If the intestine, or part of it, should die owing to the action of the typhoid germ, the before harmless parasite sets up a saprophytic (a parasite thriving upon decaying organic matter) habitation of the tissues, and produces in the living adjacent tissues suppuration, necrosis and hemorrhages. The most important of these pathogenic parasites is the *pus-microbe,* or micrococcus. The engorged and infected glands are attacked by thousands upon thousands of these pus-microbes, which may result in the infection of cavities and larger organs of the body, as the lymph channels are flooded with bacteria. Pus formations may take place in any part of the body, and the destruction of the walls of the intestines and of the walls of the blood-vessels, which is the cause of perforation and hemorrhage, is due to the pus-microbe. The septic bacteria may be carried into the arterial circulation, and erysipelas or tetanus may result from local abrasions. If the above be true, that suppuration is not one of the processes in the morbid changes that take place from typhoid infection in Peyer's patches, then this should have an important bearing upon the treatment.

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*Read before the UPPER PENINSULA (Michigan) MEDICAL ASSOCIATION.

In the treatment of typhoid fever we have to deal with, I think, a distinctively *surgical disease.* If the inguinal glands were the structures attacked by the bacillus typhosus we would not look to the physician (using this term in a restricted sense of course) for advice concerning the disease. Appendicitis and typhlitis are being gradually, but not the less surely, rescued from the uncertainties of medicine and the physician with the result of thousands of lives saved annually. Why not extend similar good offices to typhoid? It lives in the same neighborhood, and is nearly related, having a great many things in common. Surely a surgically trained mind should contend with a surgical disease. And why not re-christen the disease? Typhoid fever and enteric fever are meaningless terms, and, pathologically, are incorrect. Appendicitis or typhlitis have as good a claim to the term, enteric fever, as typhoid. Enteric fever from the Greek εντερον, intestine, suggests enteritis. Then, again, typhoid, from the Greek τυφοσ, stupor, is senseless. I would suggest Peyeritis as being a pathologically correct name for what we now call, stupidly, typhoid fever. It would have this advantage at least, you would not have your etiological sense injured by hearing the term, peyeritic malaria.

In the treatment of typhoid fever the same measures should be adopted that are indicated in cases of appendicitis where an operation is either not necessary or impossible from the necessary consent of the patient or the friends. The salient points in these measures are tersely expressed by three D's—*Drainage, Disinfection* and *Diet.* Disinfection measures indicated consist in antiseptic precautions directed against the whole alimentary canal internally, and the skin externally. No attempt is made, nor do I believe it possible to destroy or dislodge the pathogenic germ by intestinal antisepsis. Intestinal antisepsis, by checking putrefaction or fermentation changes, simply prevents the development of germs, which are under ordinary conditions present in the intestinal tract, from harmless into pathogenic germs, consequently if these germs are through antiseptic precautions kept in their normal condition, complications are reduced to a minimum, and hemorrhages and perforations are almost impossible. Mouth and skin disinfection are also important measures. Drainage I need not dwell on. It is such an indisputable measure, having for its object the elimination of toxins and waste, the former increasing the latter, and the latter a pabulum for the development of pathogenic germs. Also Diet may be dismissed by simply referring to the necessity of giving simple, nonirritating and unfermentative food which can be readily digested.

Coming now to a more detailed description of treatment, taking as a basis my personal experience in typhoid fever, I divide this experience into two periods of six and eignt years each, which includes over five hundred cases in the last period. During the first period I treated my cases in a routine way with large doses of calomel at the start, followed by salines. I carried to excess (for the times) cold water bathings, the wet pack, and used no other internal antipyretic except quinine. Hemorrhages, diarrheas, perforations, and exhaustion from high and long continued fever were looked upon as necessary concomitants in a certain proportion of cases, my death rate being about ten per cent. During the last period, which brings me up to the present time, the routine of treatment has been as follows: Upon first seeing the case I order a dose of calomel, say five grains, with ten grains of sugar of milk, to be followed in three or four hours with six to twelve ounces of compound citrate of magnesia water. The above is repeated in two or three days if necessary until the well-known physiological action of the calomel upon the excretory glands is apparent. The patient is then given a warm soap bath, the rectum, and if necessary, the lower bowel washed out with normal salt solution, and I prescribe a mouth wash composed of Seiler tablets or antiseptic powder (Milburn), hydrogen peroxide, glycerine and water, which is used shortly before taking nourishment. The patient is also ordered to clean the teeth several times daily with this solution. Several glasses of lithia water (five grains lithium citrate to a glass of water) are given daily with the object of washing out the stomach and secretory system. The diet consists of sterilized milk and limewater or buttermilk, given at regular intervals with occasional doses of liquid peptonoid, which acts as a stimulant. This diet is continued until the temperature falls permanently to below 100° Fahrenheit. If necessary compound magnesia water is given in the mornings in sufficient quantity to produce two or three movements of the bowels in the twenty-four hours, and the rectum is washed out with salt solution after each movement. For intestinal antisepsis I prescribe in powder or capsules every third or fourth hour as condition may require, dose according to age, condition and combination, one or more of the following insoluble intestinal antiseptics, namely, betanaphthol benzoate, guaiacol carbonate, bismuth subgallate, menthol, calomel, betol, thymol, beta-naphtholbismuth and naphthalin. I use more frequently the following combination, which does not disturb digestion: Beta-naphthol benzoate, five grains; guaiacol carbonate, five grains; bismuth subgallate, five grains; menthol, one grain; calomel, one-twenty-fourth grain; podophyllin, one-thirty-sixth grain. If diarrhea is excessive, which is very rarely so, I add tannic acid, five grains; codeine, one-fourth grain. To eliminate the toxins and to promote skin drainage I prescribe the antipyretic, lactophenin, which is allied chemically and therapeutically to phenacetin, lactic taking the place of acetic acid. It acts like phenacetin, but more slowly; has a more calming and hypnotic effect, with no effect upon the heart except that the pulse becomes fuller and slower, while the breathing is unaffected. A moderate dose, five to ten grains, is given every second hour if the temperature rises above 102° Fahrenheit, until perspiration is induced. The dose and frequency of its requirement is diminished as the case goes along. The temperature is seldom if ever reduced below 100° Fahrenheit by its action, and the reduction is gradual, occupying three or four hours. I cannot speak too highly of lactophenin as an antipyretic and hypnotic. I have used it altogether in my practice during the past three years to the exclusion of all other antipyretics, and I have yet to learn of a single case in which it had the slighest depressing effect upon the heart or circulation. I also regard it as a valuable toxin neutralizer, as it will reduce temperature at 100° Fahrenheit one or two degrees without causing perspiration. In treating moderate cases of typhoid, I have, on several occasions, discontinued the lactophenin in order to watch the effect of intestinal antiseptic treatment alone, but have been forced to renew the antipyretic at the earnest solicitation of the patients, who complained that they were not doing as well, and that the only time they had any peace was after taking a "sweating powder." Occasionally I have used liquid guaiacol as an antipyretic, ten drops being thoroughly rubbed into the right iliac region. Perspiration is induced in about half an hour, and continues for from four to six hours. Its action is supposed to be the product of a reflex, through stimulation of the peripheal nerve filaments, and an action on the thermic centre. It has the disadvantage of sometimes producing more or less cyanosis. If possible to keep temperature within the "normal typhoid point," 100° to 102° Fahrenheit, by cold sponging frequently repeated, antipyretics are not used. With or witnout antipyretics cold sponging at frequent intervals is always ordered. Cold bathing is said to increase the number of leucocytes from two to four fold. In a modern house, where it is possible to get hot and cold water, I always use a water bed in the treatment of a serious case of typhoid. An ordinary garden hose is attached to the combined hot and cold water faucet in the bath room, and connected to the bed, and a second hose with a regulating nozzle carries the water from the bed to the closet or bath tub. You are thus enabled by regulating the taps or faucets to keep a continuous flow of cold water circulating through the bed, or when necessary, you can, by turning on the hot water, either alone or in connection with the cold water, have any degree of temperature you desire, and can also have to a certain degree a like control over the temperature of your patient that an engineer has over his engine when he adjusts his lever. In every case where the water bed was used temperature was very easily controlled without antipyretics, and the very minimum of medication was necessary. Recoveries were also very rapid.

The above treatment, as briefly as possible outlined, fulfills, I think, the requirements of the three D's in the treatment of typhoid fever, namely, drainage, disinfection, and diet. The results attained have been satisfactory. The mortality in my last five hundred cases was two-fifths of one per cent., or two deaths. Of the fatal cases one was that of a boy, aged six years, who a few weeks before had recovered from a severe attack of double pneumonia. The cause of death was heart failure at the third week. No antipyretics had been given him at any time during his illness, and his temperature had not been higher than 100° for three or four days previous to his death. No other unfavorable symptoms or complications had developed during his sickness. The second case of death was that of a man aged forty-five, who had been under treatment several days previous to his coming down with typhoid, for follicular tonsillitis with pharyngitis, and a slight bronchitis. He died also in the third week of his disease, his temperature having been nearly normal for several days. The cause of his death was edema of the lungs, suddenly developed. The average duration of fever of these five hundred cases of typhoid was two weeks, the temperature ranging in the third week between normal and 100°. In all these cases the following conditions or complications were without a single exception absent: Delirium, dry or cracked tongue, sordes, excessive diarrheas, tympanites, hemorrhages, perforations.

The question may be asked, could not the same results have been had under less preventive treatment? Possibly, but I have noticed in leaving off or from neglect on the part of the nurse of treatment, symptoms or conditions which were under control developed again, such as dried tongue, fever, tympanites, et cetera to be subdued upon resumption of treatment. In no sense do I claim that any treatment is *specific*, simply *preventive;* nor do I claim that there are no cases of typhoid that do not do well under the "expectant plan of treatment." A man who, on a dark and stormy night, is forced to take a lonely and dangerous road, fortifies himself with a lantern, and, perhaps, a revolver. The fact of anyone else who does not take similar precautions going and coming safely furnishes no argument for his not doing so; nor does the fact that he accomplishes the journey himself safely without having to make use of these precautions, although at hand, influence him if he repeats the journey. And, therefore, I advocate very strongly the necessity of preventive treatment in every case of typhoid fever from the very outset of the disease, however mild the case may be, having always in view the possibility of the development of the pus-microbe. I do not overlook the fact that nature plays a very important role in the modification of the disease, and agree with HARE that in typhoid "in the first place the emunctories relieve the patient's system by eliminating toxic materials; second, the glandular system protects the body from these poisons by oxidation and by the development of leucocytes whereby in turn phagocytosis is developed and antitoxin formed, and finally, fever produced which is either distinctly detrimental to the germs or their toxin, or so stimulant to the tissues or glands that antitoxin is more freely manufactured." But I do not agree with him that a fever up to 108° to 110° Fahrenheit is engaged in the modification of the disease. I think clinical experience would place the limit of fever modification at not higher than 102° Fahrenheit.

A word concerning the BRAND or cold bath treatment in typhoid fever. We know how pneumonia and other kindred diseases are acquired—by rapid changes from high to low and from low to high temperatures. Vitality is lowered, and the normal condition of cell life suspended for a time. This to my mind condemns any measures which result in the temperature rising and falling rapidly several times, or even once daily. My experience has been that the more even you can keep the temperature throughout the twenty-four hours, the greater chance there is for the modification of the disease.

In closing my paper I may say I make no claim to originality in the treatment of typhoid fever. If successful in my treatment of the disease it is because I have been able to collect and group together and apply the good ideas and experience of other men several years before the so-called and somewhat similar WOODBRIDGE treatment was ever heard of. The only originality I can rightly claim is in the vagaries of prescription writing.

THE ANTITOXIN TREATMENT OF DIPHTHERIA.*

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THE subject that I have chosen for this occasion is one that is found discussed in almost every medical journal that the reader may chance to pick up, and this has been the case for a year at least. For this reason it might seem superfluous for me to attempt a discussion at this time and place, but it has occurred to me that the subject has not received at the hands of the society the attention that its importance might demand and it is my purpose, by giving a brief personal experience with the use of antitoxin, to bring before our society as general a discussion of the subject as possible.

I will not attempt to enter into a long theoretical consideration of the discovery and introduction of antitoxin but will proceed at once to a consideration of my cases, making my report as general and brief as possible, as I am well aware that clinical details of individual cases would be tedious, except when some particular feature may be illustrated.

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* Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

The first case or set of cases in which I employed the serum treatment was so convincing and characteristic that I became a convert at once. C. H., aged two years, was taken ill on Wednesday and was treated by an old physician, a relative of the family. No diagnosis was made until the Sunday following at 2 P. M., when I was called to see the child. I found diphtheritic membrane lining the tonsils, entire pharynx, nares and larynx; breathing short, difficult and stertorous, child cyanotic. I consulted with the attending physician and recommended tracheotomy and antitoxin. The latter suggestion was accepted and carried out as soon as the serum could be procured. At 6 o'clock I saw the child again with DOCTOR BONNING in consultation. The doctor approved of my treatment but insisted upon a tracheotomy and the operation was performed at about 8 P. M. by DOCTOR MAASS. I gave the child about eight cubic centimeters of GIBIER's antitoxic serum (DOCTOR ROUX' formula), followed by the same dose on the next day. Within forty-eight hours there was considerable improvement both in the pulse and respiration and the child then made a rapid and uninterrupted recovery. No other medication was employed.

After I had been attending the child about two days its grandmother, aged sixty-three, and its aunt, aged eighteen, came down with the disease. They were attended by the same physician until Friday evening, the fourth day of their illness, when he said to me: "Doctor, I have tried the old remedies in these cases and find my patients quite sick. I wish you would look them over and if you find it necessary try the antitoxin." Upon examination I found MRS. H., the grandmother, with a temperature of 103°, pulse 124, stertorous breathing, tonsils, pharynx, and larynx filled with membrane, patient prostrated and just able to whisper. The condition of MISS H. the aunt, was very similar. I at once administered ten cubic centimeters GIBIER's antitoxin to each and discontinued all other medication. The next morning when I called I found a temperature of 99° in each case, pulse of about 90 and the patients able to talk and show me large pieces of membrane that had come away during the night. Within a week it was my pleasure to report these patients recovered.

The only other occupants of the house (besides the physician in charge who lived in the house) were the parents of the child. I tried to persuade them to let me immunize them by means of a small injection of antitoxin. The father would not listen to it, but the mother reluctantly consented, and strange to say, she, though most constantly and directly exposed, escaped the disease. The father was nearly as fortunate. On Friday evening he told me that he felt ill and had a sore throat. I examined him and found a small patch on the left tonsil, and the patient had a temperature of 101.5°. Ten cubic centimeters of the antitoxin serum were administered and the next morning his throat was clear and his temperature normal.

Another set of cases that came under my observation were five inmates of the county jail who came down with diphtheria during the months of December, 1895 and January, 1896. The first case was that of a boy, E. D., aged fifteen years, whom I was called to see on the afternoon of December 30. He was taken ill on the previous day with a sore throat and headache. Examination showed both tonsils coated, temperature 103.5°, pulse 120. In this case I made a culture which was examined by the Board of Health and the KLEBS–LOEFFLER bacillus found to be present. I had the patient sent home at once and injected twelve cubic centimeters of Parke, Davis & Company's antitoxin (1000 units). The next morning my patient's temperature was 101.5°, pulse 100, and the left tonsil quite clear. I gave another injection of twelve cubic centimeters of the serum and the patient made a good recovery. In this case a solution of bichloride of mercury (1:3000) was used as a gargle. Confined in the same house and directly exposed was a sister of the sick boy, a young lady aged eighteen years. She was given five cubic centimeters of antitoxin as a prophylactic and she remained immune.

This case was followed by four others at the jail, all of which were transported to Harper Hospital where they received the antitoxin treatment, one dose of twelve cubic centimeters being administered to each patient and a local application of LOEFFLER's solution. The disease ran a mild course in all of these cases and the recoveries were rapid and uneventful. The KLEBS–LOEFFLER bacillus was found to be preseht in each case.

On December 20, I was called to see H. H., a girl aged two years, and found her ill with laryngeal diphtheria. The child had been ailing two days but her parents had neglected to call in a physician. The case was of such severity that I informed the parents that unless there was a remarkable improvement by morning it would be necessary to operate. I administered antitoxin (ten cubic centimeters Parke, Davis & Company's, 1,000 units) and when I saw the child again at midnight I found her somewhat improved. The next morning I found my patient very much improved having coughed up large pieces of membrane during the night. Her recovery was rapid and uneventful as were those of the other cases. During my close attendance upon the patient just referred to, I had my attention called, on the second day, to her brother, aged three-and-a-half years. The little fellow had just begun to develop the dread disease; one tonsil was slightly coated, while his elevated temperature, rapid pulse and headache verified my diagnosis. One injection of ten cubic centimeters (1,000 units Parke, Davis & Company's antitoxin) sufficed to abort his case, at any rate the membrane did not develop and the constitutional symptoms subsided. In both of these cases the KLEBS–LOEFFLER bacillus was found to exist.

On January 8, 1896, I was called on to see M. D., aged twelve years, and O. D., aged eight years. The constitutional symptoms, membrane on pharynx and tonsils together with a bacteriological examination of the same revealed the diagnosis—diphtheria. In these cases the effect on the temperature was most striking. Just before the use of the antitoxin M. D.'s temperature was 103.4°. That was at 5 A. M., on January 9; at 7 P. M. of the same day the temperature had fallen to 99.5° and the other symptoms were equally improved The other case was a mild one and though it showed a typical reaction after the use of the serum, nothing worthy of mention developed. In this house, in fact in the same room, as it was the only warm room in the house, five other children were confined and I used antitoxin on all of them as a prophylactic,—none of the children contracted the disease.

Another case that I attended was that of a brother physician. His temperature was 103° the first day and was reduced two degrees within twelve hours by the use of the serum. On the second day I gave him another injection of ten cubic centimeters of the antitoxine and his recovery was rapid. In this case a bacteriological examination was not made, but the diagnosis was evident from the clinical appearances and from the fact that the doctor had been exposed to diphtheria, in a case that he had treated and which died a few days before he was taken down with the disease.

Before closing this general report of my case, I wish to mention my only fatal case. On June, 1895, I was called to see a case with DOCTOR RUDY in attendance. The child, aged about one year, was taken ill a week previous with diphtheria of the vagina. When I saw it, the case was septic, the patient cyanotic, the respiration short and difficult, with membrane lining the nose, pharynx and larnyx. Although the case was about as hopeless as the first one that I have reported, I recommended tracheotomy and antitoxin. The parents would not consent to the operation but the serum was administered. After a struggle of about twelve hours the child died.

There has been a good deal written and spoken about the deleterious effects of the serum treatment. I wish to say that as far as my experience goes the effect seems to be anything but delèterious. I have noticed only two manifestations after the use of the drug that have been unpleasant, namely, the localized pain which invariably follows at the seat of the injection, and the eruption, urticaria, which follows in some cases. However, when we consider the advantages and meet these as the only disadvantages, they fall into the back ground and disappear out of sight. The localized pain as I have said was present in all of my cases and its severity was only to be judged by the sensitiveness of the patient. The urticaria was present in five of my cases, appearing in from five to fourteen days after the injection, and disappearing rapidly.

Another fact worthy of mention and which I have not dwelt upon in the consideration of the individual cases is the fact that, in order to give the serum treatment a thorough test, I discarded all other treatment except the local application of some suitable solution and such stimulants as were considered necessary. In all of the cases a milk diet was adherred to as much as possible.

It has been further urged against this modern and successful treatment of diphtheria that it must be applied early and that any proper treatment applied early will yield the same beneficial results. I wish to call attention to the fact that in at least five of my cases it was applied late, on or after the third day, when the disease was well established and with the results as given above.

Again, the mortality of my cases which were of course not selected but treated in all stages of the disease, was very small, being only one in fifteen, or six and two-thirds per cent.

In all of the cases the temperature was reduced from one to four degrees within twelve hours after the use of the serum.

The effect of the antitoxin as a prophylactic was most remarkable.

In conclusion let me say that in the future I, for one, shall not feel justified in neglecting to use the antitoxin treatment where I am satisfied that I have a case of true KLEBS–LOEFFLER diphtheria to manage.

365 SAINT AUBIN AVENUE.

MILK POISONING.*

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ON Feburary 3, 1896, I was called to attend JESSIE McD., aged five months. The child had been fed every three hours on condensed milk only. She was apparently healthy, though wax-colored, and showing a tendency to the square, rickety head. Her mother, who was very deaf, said she saw nothing wrong in the child, but the father who was home, this being Sunday, became alarmed on account of a strange cry the child was making every few minutes, her general restlessness, and the frequent loose, green, offensive stools. The child had been unnatural for two days. She vomited the day before and did not sleep the night previous to my call. This child was sitting up, and at first sight did not appear sick. On close examination the pupils were dilated and little responsive to light, the head was hot, pulse slow, feet and hands cold, and the short unnatural cry was emitted regularly. There was voracious thirst, but no vomiting.

It was difficult to impress the idea of danger on the parents, and it was only after close examination that it became clear to myself. My first visit was at 4 P. M., and the child died at midnight in its mother's arms, before she knew it as she thought that it was going to sleep. The stools continued of the same green, offensive character, and the child acted in the same restless crying manner, sleeping only one hour after I first saw her till she died. There were no convulsive or twitching movements of the muscles in this patient. The meningeal irritation was indicated by the cold extremities, unnatural cry, dilated pupils, hot head, wakefulness, and general restlessness. These symptoms continued in varying degrees till the child's death. The pulse gradually grew feeble, small and indistinct, and with this the coldness of the extremities became more difficult to control. Her restlessness was decided but not continuous, as she slept a little.

There was little opportunity for treatment, and no apparent benefit resulted from the mercurial purge or sedatives which were used. Externally nothing could be applied to the head, as the child resented it, becoming frightened and more restless when it was attempted. She did not vomit, and though looking very white, was not emaciated much.

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*Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

On the 4th of April of this year I was called to see HOWARD B., aged two years and eight months. I found the patient pale, nervous, shrunken in flesh, thirsty, very excited and restless. His pupils were contracted closely, head and general surface very hot, temperature 104°, pulse 150—small and irregular. His bowels were very loose. The stools were green, watery, with a little mucus and blood voided suddenly without warning and intensely offensive.

This visit was at 2 P. M., and the history given showed the child enjoying his usual health the day before when he ate some taffy made by his brother about midday. He partook of mush and milk at 4 P. M., a small supper at 6 P. M., played freely all the evening, and drank milk more liberally than usual before retiring to bed at 8:20. His supper consisted of chopped beafsteak, rice pudding, and half of a canned peach. All the family partook of the same dietary except the milk. He slept well till 3 A. M., when he awoke complaining of a pain in the back, was feverish, drank water, and vomited. The vomited matter consisted of the milk principally with some of the meat and rice pudding, also some oatmeal mush which his mother fed him at 4 A. M. He showed restlessness and fever and continued vomiting at intervals till 9 A. M. At 7 A. M., the bowels began moving, the first two stools being natural, but the subsequent ones were watery, green, very large and intensely offensive. They continued very frequent and large and soon became streaked with blood and slime and were passed involuntarily. He had convulsive twitchings of the hands and arms from 10 A. M.

When I saw him at 2 P. M. the stools were still this way and the restlessness was very pronounced. While his head was clear on some things there was great difficulty in controlling him and he saw things wrong. I ordered a mercurial purge at once and a cold bath, with cold applications to the head, the latter to be continued after the bath. He was opposed to these and it was with difficulty they were continued. In addition I also gave him bromides. Treatment had apparently no effect on this child, as he became cold at 8 P. M. His senses remained impaired and he was very excited and unnatural but knew all about him. The bowels continued purging and the emaciation was very rapid. He looked as if he had been sick two weeks. He still had those convulsive twitchings of the hands and arms which continued till death at 11 P. M. which was preceded by strong tonic contractions of all the muscles, and this remained even after death.

About a year previous to this sickness this child had an attack of poliomyelitis, with acute febrile symptoms which lasted two weeks. During this seizure he was paralyzed in both inferior extremities. This lasted till all febrile symptoms subsided, when the paralysis also disappeared from all muscles except some of the extensors of the right leg. In a month he walked again and gradually resumed almost complete natural action even in this limb. While I had reason to suspect an inherited syphilitic taint, I could discover no evidence of this in the child, but a brother, seventeen years older than he, had a large crop of venereal warts on his neck when a child, and now has a large perforation of the septum nasi.

The commencement of sickness in this case was undoubtedly failure of the stomach to digest the food taken during the evening previous. This was shown by the vomited matter, which was principally milk. The exciting or first disturbing cause of trouble was probably the taffy made by his brother at 2 P. M. While this child did not eat much of it, and showed no immediate symptoms from it, yet the brother, aged fifteen, who ate freely of it did feel nauseated, and as he expressed it, "played ball hard for four hours till this effect passed off." He did not vomit, though he feared he would for a time. It will be observed that the child showed portions of all the food taken after eating the taffy—mush at 4 P. M., meat, rice, and peach at 6 P. M.—but most of the vomited material was milk.

The brother who ate freely of the taffy and felt nauseated from it had no further trouble. All the family partook freely of the meat, rice, et cetera at supper, and no trouble resulted with any of them. This leaves only the mush and milk at 4 P. M. and the milk at bedtime as the factors liable to cause infection of the digestive tract. Of these two foods we have no evidence of bacterial infection from the oatmeal mush, but we have unmistakeable evidence of this from the use of milk.

In the case of JESSIE McD., there can be no doubt about what agent caused the infection as the child was fed entirely on condensed milk. I knew both children from their birth and had discussed the question of dietary in both cases very fully. The mother of JELSIE, who was the fourth child, was pale, anemic, and always had to feed her babies, never having any nurse for them. In this child, as in many hand-fed ones, one of the greatest difficulties was to adjust the amount of the food to the child's digestive power of that food, and also be successful with its general development and growth. The great tendency is to overfeed, dilate the stomach and reduce the digestive capacity. It is a well-known fact that in proportion with dilatation of the stomach we have always altered secretions and a resulting imperfect digestive result. This derangement increases more rapidly than the increasing age of the patient can correct, so that we frequently find children unable to digest at six and eight months such food and amount thereof, as they digested well at three months. On inquiry I found that the amount fed to JESSIE was an outside limit of capacity at that age. The mother had raised her previous two children, one having died young, by feeding on arrowroot biscuit—a very popular food with English people. She had been accustomed to the vomiting and digestive disturbances of arrowroot-fed children, and was not alarmed when these appeared in this baby; but she did not apparently realize the danger always present in milk dietary from frequent offensive stools, especially in very young children. While it is common to have one or two stools of this character appear occasionally without apparent harm, it is well known that sudden and fatal results follow them commonly, when they are frequent, continuous, and very offensive.

In healthy stomachs, even when the milk is tainted, we find that the digestive secretions, most probably through the hydrochloric acid they contain, are able to destroy all bacteria and thus give the patient immunity from infection, but in weak stomachs, and those suffering from a mild gastritis we find the result otherwise. These are the cases which suffer from the poisonous results of milk dietary. The milk is an excellent culture medium and when it is placed in the warm stomach the bacteria multiply with great rapidity when they are not desstroyed by the gastric secretions. It is generally understood that trouble of this kind arises only in the warm weather of summer. Certainly this is the most common season of the year for alimentary infantile disturbances, and in direct proportion with the suddenness and intensity of the heat are the frequency and severity of the infectious results following the careless or heroic use of milk food. But while we admit that this is a summer disease, we cannot help asking why it is so? The answer is simply a temperature favorable to the rapid development of all decomposing germs and their consequent early presence and development in all nitrogenous substances left exposed to them. We see this illustrated continually in the rapid changes occurring in meats and milks in summer as against winter. Now, if temperature is the factor causing these unfavorable results, we should find some evidences of these changes also in artificial summer heat steadily produced by the much used base-burner stove in many houses. While such is not common, yet I have not passed a winter for many years in which I did not find exactly this result occurring in houses where the baby was kept sleeping in a cradle or cot in the hot corner of the room, the principal other tenant of which was the ever overheated base-burner stove. Most frequently the child occupies the hottest corner, as it is the one always least exposed to traffic, consequently least used and most convenient in which to place a cumbrous cradle. Very commonly, I have observed, this infectious disturbance (which is the result of decomposition instead of digestion) will occur after a festive season, where children are allowed to indulge too freely in their dietary. That it does not occur more frequently in these houses is due to the fact that all the rooms are not thus heated, that the food is always kept in a cool room, and that there is no base-burner in the cow stable or the milk wagon, and consequently less milk infection is possible.

It is only within a few years that the pathogenesis of this affection has been understood. Formerly great divergence of opinion existed on this topic; some considered it a most violent inflammatory action on the lining of the bowels, primarily, and cerebral irritation following, and argued away the lack of pathological evidences to support this theory by saying that inflammatory evidences in mucous membranes frequently disappeared at death, pointing to conjunctival inflammations and their postmortem changes as a proof. Others ascribed it to a form of sunstroke produced by intense heat. Again, others construed it as inflammation of the meninges of the brain, while there were yet others who saw a solution of the cause in irritation of the nerve centres. All seemed to recognize the nervous connection in some way, most of them considering the heat as the prime cause, but totally unable to explain the connecting factor any further. It is only lately we have understood the presence of bacteria, their immensely rapid development in imperfectly digested or decomposing animal matter, their general dissemination of them and their toxins through the agency of the intestinal absorbents, and the general blood circulation to all the tissues of the body; and thus can understand the rapid diversity of symptoms which may develop from an apparently slight gastric disturbance. Here, as in any generally febrile condition, the weaker part shows an undue force of the febrile or other irritant, and the symptoms presenting prominently are those peculiar to that weak part. This was nicely illustrated in those two cases, the girl, JESSIE, being hand-fed and of a delicate mother, was developing the rickety appearance, which is strongly shown in her brother. In this type of children the predisposition is always to cerebral irritation, which they develop very rapidly and often succumb quickly to modern sickness. All her symptoms pointed to head irritation. The boy, HOWARD, having suffered from spinal irritation a year before, indicated, by the arm twitching and tonic contractions of the muscular system generally, irritation of the spinal cord with limited cerebral disturbance.

We are all accustomed to having a child show one or two offensive stools without any unfavorable results. This is common even in adults from any nitrogenous diet which has been taken in excess. If the amount of digestive fluid is capable of perfectly consuming, and appropriately, only six ounces at any meal, there must certainly be decomposition instead of digestion, when a greater amount is taken. While in many healthy stomachs there may and undoubtedly is ability to rise to a greater effort than ordinarily required, yet it is notorious that this causes irritation of the mucous membrane with reduced working power very soon, and then decomposition of food tends to supplant healthy and perfect digestion.

It is in stomachs thus irritated that we find the most frequent unfavorable results. The question then arises, if such poisonous results are possible from this decomposition and formation of sulphureted hydrogen in the bowels, due to this immensely rapid bacterial development, why are children not killed more frequently? It is doubtful if they are not killed in this way more frequently than we recognize. Certain it is that they are often so, and more certain it is that they are continually damaged and other sickness rendered more severe by the persistence in feeding that is ignorantly allowed in acute febrile affections, where milk is freely given as a drink. How many of these acute diseases, now fatal, would be recoveries if properly dieted it is impossible to know. Certain it is if we would all give the child the same privilege of reducing his dietary that we demand ourselves when similarly sick, there would be less death.

But nature has made provisions against these dietetic abuses, other than increased effort of the digestive tract. She has recognized the liability to these mistakes, and has provided compensatory power to dispose of the extrapoisonous condition of the blood which must follow unsuitable food, disease or the disassimilation following violent exercise. In the kidneys, she has provided an escape or wastegate for the residue or waste material always more or less present in the blood current. Here, in their healthy condition, it is estimated that five times the normal secretion can be voided in emergency when demanded. Thus when the blood is being overloaded at any one part with poisonous or waste material, it immediately delivers it to the kidneys for expulsion.

Again, experimental research of BOUCHARD and others has shown that the liver stands guard over the portal circulation, receiving, altering and destroying as necessary, the element taken up by the epithelial lining of the alimentary canal and delivered to the portal veins. The extrapoisonous results produced by injections into rabbits of blood from the portal veins over that from the general circulation clearly demonstrates this function of antidotal or synthetical power in the liver.

Now, recognizing this great protective power of these important organs, we must realize, first, that with both healthy liver and kidneys the poisonous dose from bacterial infection must be large and rapidly produced, and overcome the protective power of the liver and the eliminating power of the kidneys before it endangers, through irritation of sensitive organs, the life of the child. But, on the other hand, it can easily be seen that with either functional or organic disturbance, even of only a temporary character, in either liver or kidneys, a very moderate poisoning from bacterial milk infection due to decomposition may become a serious menace to life. It is undoubtedly due to one of these latter conditions in delicate children that we frequently find sudden and unexpected fatal results from excesses in a milk dietary, from impure milk, and from acute affections in milk-fed children.

INTESTINAL OBSTRUCTION.*

BY A. N. COLLINS, M. D., DETROIT, MICHIGAN.

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AMONG the many grave conditions that confront us as general practitioners and surgeons, none are more worthy of our best knowledge and judgment; none require better skill, more boldness, or greater caution, than some phases of the condition known to us under the group name, intestinal obstruction. Standing by the bedside of a patient suffering from this symptom, well knowing the gravity of his condition, we realize how literally his life may be in our hands, and that upon our wisdom, promptness and caution, depends his safety or danger. I believe we all have felt deeply this sense of responsibility in these cases and wished for more knowledge, more certainty when considering the wisest procedure for relief and cure. This is my apology for bringing this subject before you tonight, not that my limited experience shall teach you, but that it may give to me and to our society the experience and riper judgment of those among us whom we know have opinions and knowledge that will help the younger general practitioner and surgeon to better meet these cases. Few medical societies are so rich in men whose reputations are national and whose instructive powers are so valuable as ours. It has often occurred to me that we have not framed our work in this society so as to get the most advancement possible to the rank and file of the general profession of our city and state.

We look upon intestinal obstruction in our consideration of it as a symptom brought about by a large number of causes but whose effects are similar, namely, obstruction of the lumen of the intestinal tube. This obstruction gives rise to symptoms the causes of which are the occlusion of the gut. These causes are many, and our difficulty lies almost wholly in finding which of the many causes we have to deal with that we may rationally overcome it. Our term, intestinal obstruction, is an effect and effects usually are symptoms. Earlier in medicine the term fever was a name that satisfied both patient and physician. In our day to say a patient has fever is to tell of a symptom only. It may be typhoid, inflammatory, septic, reflex, et cetera. Without going beyond our symptom fever, in our knowledge, we cannot treat the symptom rationally. So in intestinal obstruction our difficulty is mainly in deciding upon the specific cause, all else follows logically and easily with the help of experience either our own or others.

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* Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

The causes of this condition are often very obscure, but they naturally fall under two heads, acute and chronic.

With the acute condition we have to deal tonight. This is the condition we believe most profitable to discuss. We may have acute manifestations of chronic conditions and also chronic imperfect obstructions following the acute. All chronic cases must be imperfect or have fistulæ above the obstruction. DOCTOR SANDS has classified the causes of acute intestinal obstruction as follows:

(1) Errors of position, as intussusception volvulus.

(2) Compression, as from inflammatory bands, diverticula, internal herniæ, tumors.

(3) Obturation from foreign bodies as enteroliths, gall-stones, polypi, fecal accumulations.

(4) Stricture of the bowels, either fibrous or malignant.

To this classification I would add external herniæ and food accumulations. His classification does not include herniæs external. That external herniæ produce the most characteristic and common obstructions there can be no doubt, and for practical reasons I shall include this form.

One case that came under my notice, falling under the head of errors of position, helped to confussion rather than clearness of action. As it is illustrative of this class of cases I will report it briefly.

S. B., a male infant two years of age. The child was well nourished and well developed. His temperature registered 102–5°; pulse rapid; tongue furred; countenance pinched and expressive of pain. There were severe collicky pains with tenesmus and frequent mucosanguinolent stools, tympanites and obstinate vomiting. I saw the child on the fourth day of its illness and the history given by the mother declared the child well five days before, when symptoms of diarrhea and vomiting began, emphasized by paroxysms of great pain. A physician who had been called to see the case diagnosed cholera infantum. Remedies to check the diarrhea were given but the child had grown steadily worse since the advent of the trouble.

On examination I found marked tympanites and a doughy tumor in the right iliac region extending upward along the line of the ascending colon. Severe pain was elicited on pressure over and slightly outward of McBurney's point. From these symptoms, taken in connection with a dry tongue and a generally grave condition, appendicitis or intussusception presented naturally. The bloody stools, tenesmus, feel of the tumor, and direction of extension lead to a diagnosis of intussusception. My conclusions were, based upon surgical training and teaching, that only by an operation could relief be afforded. Opium and calomel in sedative doses were given and when their sedative effects were apparent a copious enema was administered from a fountain syringe well elevated (about four feet) and the water allowed to flow gradually with frequent interruptions. Massage of the tumor was also performed. This, after thorough trial, failed to relieve. DOCTOR DONALD MACLEAN, who was called in consultation, confirmed the diagnosis of intususception and recommended an immediate operation as the only means of affording relief. This alternative was flatly refused by the father and mother, and thus opportunity was afforded for excellent clinical study of the case. The patient was kept well under the influence of opium and sedative doses of calomel which relieved the pain, allayed the vomiting, and permitted rest. Hot turpentine stupes were applied constantly. For three days there seemed little change except a slight creeping upward of the tumor. The temperature ranged from 101.5° to 103.5°. On the fifth day after consultation and the ninth day from the inception I found that the tumor had disappeared during the night, leaving the child markedly improved. The tongue was clean, the temperature lower, and all other symptoms of the grave condition of the child much ameliorated. The patient continued to improve, and in a few days was seemingly as well as ever. The passages had been watched and there had been no evidence of a cure by sloughing. It was undoubtedly a spontaneous reduction under the quieting influence of opiates. I think all will admit that the case was very disturbing to our judgment of how to handle similar cases. In view of the gravity of the operation after four days had elapsed, and the condition not having been grave enough to bring about collapse and death, possibly in similar cases it would be wiser to trust to like results than to open the abdominal cavity. Yet, I can well conceive how dangerous the delay might prove. We might find it possible to arrive at a proper solution of our difficulty in the gravity of the onset of the case. In those cases that come on with a development of very grave symptoms during the first six hours it would seem wiser to trust to opening the abdomen and making efforts to restore the normal condition than to wait longer, after the injection under anesthesia or profound opium narcosis had failed.. All will admit that a clear-cut judgment of what is the proper course to pursue in these dangerous cases is not often present. Like many other points in surgery we must make such cases a basis for special judgment, and I cannot but feel that all effort should be made to increase our knowledge of these cases that the best efforts possible may be available for the relief of the unfortunate patients.

Perhaps the most favorable of all cases, though seemingly very grave for medicinal treatment, are those of food or fecal accumulations. These cases give us a clue to the trouble by the history often, but aside from this aid the diagnosis is puzzling, and how to best care for them not an easy problem, as there is always a feeling of uncertainty in diagnosis.

Mr. G., aged forty-five years; mechanic; spare and wiry. Had been in good health with the exception of a tendency to constipation. I saw him early in the morning, when I learned that he had been taken with severe colicky pains during the night. The abdomen was tympanitic but palpation elicted no tenderness. The legs were flexed, extremities cold and covered with clammy perspiration. Pain, at times, intense. He attributed his trouble to having eaten freely of cheese for supper the night before. The temperature was normal. Vomiting occurred only when liquids were taken. I attempted to administer salts in small doses often repeated but the stomach would not retain them. I gave five grains of calomel, with one-eighth grain of morphine hypodermically to modify pain, and applied hot stupes over the abdomen. Later in the day the patient was worse—pains more severe, vomiting reflex, abdomen more distended. I administered two ounces of magnesium sulphate per rectum in a small quantity of water. This was followed an hour afterward by a copious injection with the hips elevated. The only effect of this procedure was to lessen the vomiting.. The next day the patient had a temperature of 102°; pains severe, vomiting profuse but devoid of fecal characteristics. I again used magnesium sulphate, followed by thorough efforts with an enema. With hips elevated I could distend the colon perceptibly but obtained no relief from tympanites or pains. A feeling of fullness developed on the right side, the temperature increased, and the situation became more grave. From the history of constipation I feared that chronic obstruction had developed into acute as a result of injudicious diet. On the third day the symptoms were about the same. The temperature remained steady at about 102.5°. On the fourth day there was no change except the hardening of the abdomen from distention. No fecal odor characterized the ejecta; vomiting reflex but not so distressing; tongue coated, dry and unfavorable. On the fifth morning there was no change for the better; in fact the condition appeared more alarming. I called Doctor Walker in consultation in the evening of the fifth day. After seeing the patient he thought that it would be better to wait another day and if the patient was not better in the morning we would open the abdomen. Next day I gave the hypodermic injections more freely, and administered full doses of cascara every hour. On the sixth day gas began to escape, the symptoms had improved, soft fecal matter passed in quantities, and at night the patient was much better. The temperature remained above normal for a few days although no further pain or trouble followed. This was in July, 1892. I afterward treated the patient for pleuropneumonia and he has been under my observation since with no recurrence of the trouble.

This case I now believe to have been due to food accumulation and loss of peristalsis of a section of the bowel. It would have been unwise to search surgically for a cause and try to remove it, although it seemed from the gravity of the symptoms our only chance at one time, and I could not but feel we were failing in our duty not to give him the benefit of the chance. Had conditions not improved on the sixth day as they did, we had concluded to operate.

A case familiar to many, reported in this society some years ago by DOCTOR McGRAW, well illustrates obstruction from food. I report it from memory briefly. DOCTOR McGRAW reported being called to the northern part of the state to operate upon a case of intestinal obstruction. He went prepared to operate. The case had been under the care of two able physicians. All preparations were made for the operation and the anesthetic about to be given, when the patient passed large quantities of popped corn which had become impacted. Now, I firmly believe that a judicious use of calomel and opium would have relieved both these patients much sooner than they were relieved. Left without a clear diagnosis we must be cautious about increasing peristalsis and are thereby made timid.

Herniæ are not usually classed with the causes of intestinal obstruction. The reason for this is not plain to me. Hernia is the most common and most characteristic cause. Two cases of obstructiòn from this cause have recently fallen to my lot. They were both strangulated, and both unrecognized as the cause of the grave condition found.

The first case, aged thirty-six years, had existed for three days. The patient was seen late Sunday night. There were evidences of complete obstruction which began on Thursday. The patient had been given, conjointly, anodynes and cathartics with assurances that attention would be given to the lump in the groin as soon as the physician could get the bowels to move. The patient was in a critical state when seen by me, suffering great pain and having a temperature of 103°; pulse rapid and feeble; vomiting severe and persistent but not decidedly fecal, sour and mawkish, or better, that unpleasant odor which you have noticed, no doubt, that precedes the fecal odor, and which is very indicative that true fecal vomiting will soon follow.

On examination I found a tumor in the left inguinal region, hard and tender. I was in doubt as to the nature of the hernia whether inguinal or femoral. With the patient under chloroform I decided that it was femoral, but in spite of the seeming dullness in skill, I was in doubt whether the tumor was mainly below or above Poupart's ligament. Under complete anesthesia and favorable position of body and thigh the hernia, or rather intestine, was easily reduced from the center of the mass of omentum, leaving an adherent omental tumor as large as a butternut which was so adherent that I could not, without violence to the tissues, reduce it. Evaporating lotions were applied and magnesium sulphate solution injected into rectum. The vomiting ceased and the bowels moved freely in an hour or two. The patient then went to sleep, all pain and distress subsiding. Next morning the temperature was slightly above normal, but otherwise only soreness of the parts remained as evidence of the grave condition which was present the night before. Symptoms that followed lead me to conclude that the intestine had not been seriously injured by its long imprisonment, a result I had feared. I even doubted the propriety of restoring the gut to the abdominal cavity lest it slough and cause death. I believe the pad of omentum protected it. The temperature became normal next day, and the patient was seemingly well. She remained so for one week and then soreness developed in the remaining tumor. As there was no evidence of gut there I concluded there was none. The patient was removed to the hospital, and assisted by DOCTOR DONALD MACLEAN, DOCTOR TIBBALS and the staff he was anesthetized. My diagnosis was femoral omental hernia with some doubt about it. An incision was made and a mass of omentum as large as a small egg was found strangulated and cyanotic. It had escaped through the femoral ring and folded up over Poupart's ligament in a manner that made a certain diagnosis impossible. I dissected back to the narrow neck of the opening the thickened sack which was removed low down. The omentum was then ligated and excised back as far as possible and the stump of the sack drawn over and into the canal. The ligamentum arcuatum was drawn together as well as the peculiar anatomy and function of this canal would permit and the wound closed from the bottom with buried Kangaroo tendon.

The patient's temperature did not exceed 99°. No special disturbance was manifested, with the exception of pain in the lumbar regions. There has been no recurrence of hernia or other difficulty since.

This case is reported mainly as an illustration of this form of intestinal obstruction and its management which resulted so satisfactorily.

My second case of intestinal obstruction from strangulated hernia came under my notice first on the fourth day of strangulation. The patient was a female, aged thirty-eight years. She had been vomiting four days, pain was severe, temperature 103.5°, pulse rapid and thready. She had vomited nearly a washdish full of fecal matter which had not been removed and the oder filled the house. The attending physician used purgatives with great freedom. The patient was in that grave state familiar to all who have seen a small strangulated hernia treated only by purgatives for four days.

On examination I found a small inguinal hernia of the right side, with external labiæ much swollen and the parts inflamed. The hernia was sosmall that the mistake of thinking an abscess was being formed there might very easily be made but for the characteristic symptoms of obstruction.

The condition was one of moment and difficult of decision. I greatly feared that a reduction would but be replacing a sloughing gut, and decided to judge by ease of reduction what was best. An anesthetic was given, the patient placed in a favorable position, and the reduction performed was without force or long manipulation. No omentum being present, vomiting ceased, the bowels moved freely, and the next morning the temperature was 100° and the patient was very comfortable. She continued to improve, but a slight temperature remained for ten days. The patient then seemed well, the tongue rapidly cleared, and I did not see her again for three weeks. Then I was called and found recurrence of hernia which was reduced easily, but what I diagnosed omentum could not be replaced. The tumor was sore and painful and it was decided to remove the patient to Harper Hospital for operation, in which I was assisted by DOCTOR TIBBALS and the hospital staff. I cut down expecting to liberate or amputate the omentum and effect a radical cure, but I found no omentum, the opening seeming to be closed by inflammatory products. I found swollen, soggy tissue surrounding a pocket of pus which flowed out freely. The cavity was cleaned and scraped out, pillars drawn together, and the wall of the canal stitched together with silkworm-gut. A small drainage tube was inserted and led out the floor of the wound, above which was closed subcutaneously by tendon. The temperature fell and the patient did well without pain till the third day. I removed the tube on the second day and the wound healed. The patient developed colicky pains and evidence of narrowing of gut came on and has since manifested itself very distressingly, pain and gas rushing being found about the umbilicus. This I trust time, or if necessary, an operation, may relieve.

One more case of obstruction recently came under my observation. MR. F., aged about forty-five years. I was called to see this case in consultation with

DOCTOR CLIPPERT. The patient felt perfectly well until three days before, when, returning home at 11 o'clock P. M., being partially blind, he stumbled and fell violently. He was taken with very severe pain in the right side which soon extended over the entire abdomen. Severe vomiting, rapid distention of abdomen by flatus, great pain, and every evidence of serious injury followed. DOCTOR CLIPPERT reported that he had had no fever and judicious efforts had been made with injections to move the bowels. Cathartics had been avoided and the patient treated largely by hot fomentations and anodynes. When I saw him the abdomen was greatly distended and greatest pain was felt over McBurney's point. There was a perceptible tumor in the right inguinal region. The tongue was dry and bad, pulse good, but he was mentally flighty. I made a diagnosis of appendicitis, notwithstanding the very peculiar history and symptoms, and advised removal to hospital. On the fourth day intestinal obstruction was complete with abdomen very tense. The temperature was normal, pulse good, and vomiting had ceased unless liquids were taken. The breath and general condition were bad. My conclusion then was that it might be a volvulus with fecal accumulations above, yet we had the physical symptoms of appendicitis. DOCTOR CARSTENS was asked to see the patient, and he unhesitatingly diagnosed appendicitis without seeing the patient and stood by his diagnosis on examining him.

DOCTOR CARSTENS operated at 3 o'clock, and found a large accumulation of pus and a ruptured appendix, which was shown at the time to this society.

Here we have an accidental, sudden onset, no fever, and complete intestinal obstruction from the start with its characteristic vomiting and tympanites. This lead me at last to suspect volvulus, with the characteristic feel and physical symptoms of appendicitis. This case was like most similar cases delayed, and then shaken up in an ambulance en route to the hospital over pavements, and DOCTOR CARSTENS' skillful operation only resulted in death the following night.

From this and other cases, I have come to the conclusion that if all patients were operated upon when operation is decided upon, right where they are, with no delay or transportation, more would be saved than by transferring them to a hospital with the delay and jolting incident thereto. I believe that there is less danger in the nimble germ than in the nimble ambulance.

Intestinal obstruction is a grave condition and may meet us at any hour in our professional lives. There are many guiding features that it is well to have ever in mind, and we cannot refresh our minds too often with this subject. It is well to have a full knowledge of all conditions that may present. When called to a case it would at least assist in our diagnosis by following a definite line of investigation Age is one factor that often gives us a clue. With children we involuntarily think of intussusception and run over its characteristics. In adults I believe hernia, external or internal, in all cases presenting its characteristics should be investigated and a careful examination be made. The hernia may be internal, but it has characteristics — suddenness of attack, absence of other symptoms, and history—that usually lead us aright. Two such cases as I have reported should not occur to any physician in our day.

Food accumulations with their obstructions, and, as I believe, paralysis of sections of the alimentary tract, is one of the most common forms. The history of the case—food previously eaten—does much to clear up the case. The onset may be nearly as sudden as in herniæ due to the colic, or better, intestinal neuralgia set up. In hernia with strangulation the type of distress is more marked and systemic disturbances greater, and I believe the reversed peristalsis which gives rise to fecal vomiting is sooner set up where the intestine is pinched than in any other variety of obstruction.

Volvulus is less common, I believe, than is supposed. I have never seen a case recognized. If by any means possible the diagnosis of volvulus can be made, surgical interference would seem the wisest course to pursue. The symptoms, while not distinctive, are pointed. Age is important; most cacss occur in patients past middle age, the onset is less vicious than in herniæ and the pain severe and agonizing, with tympanites and tenesmus. Tumor in the region of the sigmoid flexure is most common.

Intussusception has more distinctive diagnostic points, namely, the bloody stools, tenesus and palpable tumor, taken in connection with the age of the patient lead us more to the truth than most forms of obstruction. It occurs in the first years of life, and up to the fifth year it should always be thought of in cases of obstruction. After the fifth years it is very rare till after the fiftieth, when it again increases in frequency. The diarrhea is common throughout the continuance of the trouble. If the invagination completely occlude the bowel and constrict the bowel inordinately all the marked symptoms of straungIated hernia may supervene from a similar cause, namely, pinched bowel. This may well be borne in mind in considering a case. Statistics of abdominal secttion for invagination give a mortality of over seventy-five per cent. No doubt if after diagnosis had been made and after one thorough attempt under anesthesia or opium narcosis had failed, abdominal section were immediately resorted to, the large death rate would be materially reduced. As reported, medical treatment and expectancy have a mortality of two per cent. below abdominal section.

Next to intussusception in frequency internal strangulation is found to cause many cases. This is the most common cause in middle life—between the thirtieth and fortieth years. Here the history is most important. A history of previous peritonitis should bring this form at once to mind, as inflammatory bands play an important part in its etiology. The symptoms differ little from hernia or pinched gut in any locality, and may well call to mind all our caution in looking for external herniæ. Abdominal section should here gain its greatest laurels as expectancy has little to offer when the diagnosis is reasonably certain.

Intestinal paralysis from various reflexes, as injury to the testicles, operations upon the rectum, blows over the abdomen, or any great shock either direct or reflex to the solar plexus may give rise to intestinal obstruction, illustrating the importance of reflex irritations of the sympathetic system in this class of cases. Food or fecal accumulations, and, as I believe, sectional paralysis of the intestinal tract, is one of the most common forms. These accumulations no doubt have their distinctive diagnostic features when we have studied them sufficiently to know their language. If my imperfect and hastily written paper shall direct the attention of the rank and file of our profession to these important cases and thereby increase our knowledge and acumen, as well as suggest more frequent consultations with those of wider experience, my object in calling your attention to this subject will have been attained.

TRANSACTIONS.

DETROIT MEDICAL AND LIBRARY ASSOCIATION.

STATED MEETING, MAY 4, 1896.

The President, ERNEST T. TAPPEY, M. D., in the Chair.
Reported by WILLIS S. ANDERSON, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor A. N. Collins read a paper entitled "Intestinal Obstruction." (See page 514).

Doctor Carstens: This paper is a very timely one. It is a good subject to bring up. I have just written to the Secretary of the State Medical Society that I would read a paper on this same subject, and I am very glad to have heard such an exhaustive paper as the doctor presents. It covers the ground on every point. Although I do not always agree with authors of papers I must say that I agree with Doctor Collins this time. We learn a great many things as we grow older and have experience. I remember when I was a young physician twenty years ago I was called to see a lady who was troubled with vomiting. I gave her some soda and bismuth to stop the vomiting. I was called a second time and gave her the same remedy. Some three days later she again became sick and the relatives thought they better have an older doctor, and so they called in DOCTOR McGRAW and he operated and cured the woman. He received the fee and I the embarrassment. When I get patients now I always examine them for hernia, and endeavor to point out the necessity of doing something. I remember another case of an old lady whom I was called to see. Hernia was diagnosed, but the woman positively declared she did not have hernia. She said there had been a lump in her groin for twenty years or more, and that it was not hernia. I insisted that my diagnosis was correct, but she declared to the contrary and was so emphatic about it that operative interference was abandoned and the woman seemingly recovered at that time. Three days afterward a recurrence of trouble ensued and I insisted upon an operation which was granted. It revealed a hernia just as had been diagnosed. That case taught me another lesson. Some time ago DOCTOR HASTIE called me to see a case in consultation with him which had manifested symptoms of intestinal obstruction. He diagnosed hernia but was in doubt. I made an examination and found the same kind of a hernia as in the last case, but the patient insisted that the tumor had been there for thirty years, and finally persuaded the doctor to her opinion. I concurred in the doctor's diagnosis, however, and informed the woman of the necessity for an operation. She had a gangrenous intestine and I resected eight inches. Fortunately she recovered. The doctor brought out two points very strongly. First, when a case of intestinal obstruction presents, examine for hernia. Do not allow patients to mislead you by declaring that they have had a tumor for some time. They may have had one but a new loop finally becomes involved and I think the only proper procedure in these cases is to operate. When a case of intestinal obstruction from invagination is encountered I do not see what can be done. In the present state of our knowledge we actually have no positive signs or symptoms. I recall a case which occurred in my practice some time ago of a woman in whom I diagnosed invagination and proposed an operation. She opposed the procedure and I gave her cerium oxalate with the result that she recovered from the trouble in a very short time and passed a piece of intestine about eighteen inches long that had become invaginated. It had sloughed off. Long before I became an abdominal surgeon (when I did general surgery) I once operated on a child for intussusception. The case was a very difficult one, and I found it impossible to separate that intussusception. The peritoneal surfaces of the bowel had become agglutinated and were absolutely bound tight. The child went into collapse on the table and I thought it would die then and there but happily I was disappointed. It, however, died shortly afterward. The Murphy button had not come in vogue, and therefore I could not make a resection. There are cases of invagination in which no adhesions take place between the peritoneal surfaces of the bowel. They will come back and separate themselves. DOCTOR STEINBRECHER had a case the other day which he asked me to call and see with him. The woman fell and presented symptoms of obstruction of the bowels. She had fallen about twenty feet and was suffering from vomiting and inability to obtain a passage of the bowels. After carefully examining the case we concluded it was a case of paralysis of the bowel. When it comes to considering appendicitis it is wonderful how certain cases will sometimes cause obstruction of the bowels from the pressure of a tumor, and at other times the appendix will encircle the intestine and by traction cause obstruction. We have a number of other causes. For instance, obstruction following operation where adhesions take place. Patients sometimes die as a result of this condition. I remember a case of vaginal hysterectomy—an ordinarily simple case—in which symptoms of obstruction developed. On careful examination I found that the intestine had dropped into the cul-de-sac and become adherent to the raw surface from which the uterus had been removed. I was obliged to open the abdomen and exert considerable force to liberate the intestine from its adhesions. The patient grew worse and died of general septic peritonitis. We have all kinds of bands of adhesions. A man came to me about three weeks ago from Canada, suffering from a peculiar form of obstruction of the bowels. It was not caused by the appendix. He was constipated all the time, had a poor appetite, suffered a great deal of pain, and was gradually losing weight. He could not get anything to pass through the bowels without taking a cathartic or resorting to massage by which measures he could provoke a slight passage. When he had a movement of the bowels he felt easier but while constipated he was in agony. I thought it a proper case for exploratory laparotomy, which I performed and found a peculiar band of the omentum which had become adherent to the wall of the abdomen from some inflammatory action which pressed down upon the intestine and produced an obstruction. These are peculiar and obscure cases. We can clear up the cause only by exploratory laparotomy and by an operation procure recovery. It is very difficult to say when to operate and when not to operate. If we operate and the patients die we are blamed. If they die without operation we blame ourselve for being cowards. I think an operation is the best procedure in these cases, and gives the patient the best chance for recovery. In appendix cases in which you have suppuration the mortality is high. When taken before perforation has occurred the mortality rate is low. Of course, by operation, we may produce suppuration and kill the patient. As far as the remarks of DOCTOR COLLINS about having patients operated upon in their homes or the hospital is concerned it depends upon what kind of an operation you intend to undertake. Some surgeons are opposed to hospitals and operate upon their patients in private houses. The jolting of an ambulance certainly may hurt them, but if it is properly constructed it is pretty comfortable to ride in. The objection is of minor importance, while the facilities afforded in hospitals, and the rapidity with which an operation can be performed far outweighs any danger there may be in transportation. I am very much in favor of moving patients to hospitals. There are exceptional cases, such as occur in the country, which you should not move. My experience is that the chances for recovery are better in a hospital than in a private house.

DOCTOR STEINBRECHER: The doctor speaks of fecal impaction occurring, especially in old people. I think in all cases in which older individuals are troubled with chronic constipation an abdominal and physical examination should be made in every case. I simply wish to remark about an interesting case I was called to see last winter. The woman had a large pendulous abdomen, very flaccid and at the same time there was vomiting. The history of the case was that she had been troubled with constipation and diarrhea alternately. My diagnosis was possible from the fact that she had this pendulous abdomen and chronic constipation with occasional attacks of diarrhea. I thought there might probably be fecal impaction with enteroliths. On physical examination I found a hard tumor over the sigmoid flexure and descending colon. I told the family that in my opinion it was fecal impaction. I gave an anesthetic and removed a large mass with the spatula and ordered an injection which carried off large scybala of impacted fecal matter and the patient recovered.

DOCTOR E. B. SMITH: This paper is so interesting that I wish to say something on it. I differ with DOCTOR COLLINS in speaking of sections of the intestines being strangulated. I think those are the cases in which we can do some good by making an abdominal section, and by pouring in copious drafts of water sometimes cause the mass to dissolve and thus save life. I believe resection could be done in twenty minutes even without a Murphy button. I remember a case of femoral hernia with a typical history of obstruction of the bowels, vomiting, headache, collapse, et cetera. I put the patient under chloroform, with the intention of reducing the hernia. DOCTOR CARSTENS was called and arrived about 1:30 in the morning, looked at the case and said it was hernia. We gave the patient more chloroform, stood her on her head, and the doctor got down on his knees and by massaging and manipulating the abdomen the hernia was reduced. I think the case illustrates that there is much in good luck as well as in good manipulation.

Doctor Douglas: Where the doctor used water per rectum as a means of reducing the obstruction, how high did he raise the fountain syringe?

Doctor Collins: About four feet. Pinch the tube and allow it to run in slowly. The obstruction was on the right side and could only be felt when the gut was well distended. After the gut becomes distended peristalsis will cause the water to flow out. It is recommended that the syringe be elevated much higher, but I do not raise it higher than four feet.

Doctor Douglas: Murphy, in speaking upon that subject, says that he made investigations by the use of water in reducing intussusception, and demonstrated the fact that the bowel was likely to be ruptured where the water was raised higher than three feet, and he very strongly impressed this fact in his investigations: that when the syringe was raised beyond that point the bowels showed lesions. Doctor Smith refers to operative procedures without previously doing anything else. Murphy cites two or three cases in which he had operated for lead poisoning, and on one occasion — which is a very interesting one indeed — after three or four days' medicinal treatment which failed to give relief, he decided on laparotomy and on opening the abdomen found about six inches of contracted ileum twisted like a piece of rope. He was at a loss what to do, and trying to decide on his mode of action he noticed that it began to relax and did so completely while looking at it. The obstruction was released, the wound closed up, and in a few hours the bowels were properly moved and the patient was entirely well. The reference made by Doctor Steinbrecher to enteroliths and fecal impaction reminded me of a case I had twenty-four years ago of an old man who had been suffering from constipation and looseness of the bowels alternately for a great many years. He had an attack once and after administering something for his relief he got rid of a hardened mass of fecal matter. The relief was only temporary and he died shortly afterward. In a postmortem we found the whole of the large intestine from the rectum to the ileo-cecal valve packed completely with solid fecal matter, and still that man was having loose watery stools. I have seen frequent instances of temporary obstruction of the bowels but this was the most decided one I ever remember.

Doctor Collins: In closing the discussion I simply wish to say that I feel highly complimented in having Doctor Carstens agree with me. In regard to the ground he has taken as to moving patients to hospitals, I think that if the conditions at home are very unfavorable it is wiser to take them to a hospital, but in a sanitary house the chances are better in these cases. In connection with Doctor Steinbrecher's and Doctor Douglas' remarks, I recall a case we had in Bellevue hospital where a patient suffered from intestinal irritation and latterly from intestinal obstruction. At the postmortem after death we found lumbricoid worms in large masses which no doubt caused obstruction of the bowel. That is the only case within the scope of my knowledge in which worms produced obstruction.

STATED MEETING, MAY 25, 1896.

The President, ERNEST T. TAPPEY, M. D., in the Chair.
Reported by WILLIS S. ANDERSON, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor Delos L. Parker read a paper entitled "A Few Ideas Concerning Chloroform and Ether." (See page 500)

Doctor F. L. Newman: I wish to congratulate the doctor on his carefully prepared paper. I must say, however, that I do not agree with him in a great many of the points he has made. I was very much astonished at the statistics which the doctor has given. They are opposed to all my preconceived ideas as to the inhalation of ether. I was of the opinion that ether rarely caused death except from poisoning when given with extreme carelessness, while we are aware that chloroform has caused death even when given with the greatest skill and with every possible precaution. There does not seem to be any way of determining which individual will succumb to the fatal effects of the drug. The strong may die under its administration as well as the weak, those who are quite normal as well as those who are diseased. A peculiar point in connection with these drugs is that an individual having passed through several inhalations of them without danger his safety will not be insured at any subsequent period. As regards the point made by the doctor about the respiration being the only necessary feature to watch in chloroform inhalation, I do not believe that this is the opinion held by the medical profession at the present day, in spite of the report of the Hyderabad commission. If I remember rightly, the Hyderabad commission which convened eight years ago, experimented on dogs altogether, and they asserted that the lowering of the blood pressure during chloroform anesthesia was not due to any peculiar ill-effect on the heart, and they based that belief on certain atypical tracings which they obtained at that time. Now, since that commission met at Hyderabad it has been shown that these tracings were not of any value whatever. A point which seems very difficult for me to understand is that if chloroform only kills by failure of the respiration how do you account for those cases where individuals die under the first whiff of chloroform; those cases which are supposed to be killed by paralysis of the heart ganglion; those cases in which LAUDER-BRUNTON states the heart is of abnormal susceptibility to the action of chloroform. Now, that is only one way which reports would indicate that death takes place under chloroform. We have those cases where death takes place during the stage of rigidity and is due to the tetanic contractions of the muscles of respiration. In those cases death is caused by accumulation of blood on the right side of the heart and would be in accord with the doctor's idea. But, again, we have those cases in which death takes place by paralysis of the muscles of respiration during the stage of relaxation, and the heart continues to beat some little time after respiration ceases. On the other hand we may have those cases in which the heart stops suddenly during the stage of relaxation, where the individual dies from paralysis of the motor ganglia of the heart. In these cases it has been observed that the respiration continues for several minutes after the heart has ceased to beat. It seems to me that while we are getting these reports of death taking place in these various ways from chloroform, it is hardly reasonable to say that it is always due to interference with the respiration. Then there is another form of death which is very prevalent under chloroform, probably one of the most striking instances of all, and that is where an operation is commenced under incomplete anesthesia. In these cases we generally read that the individual has died under the anesthetic, causing surprise to those present on account of the small amount of the drug he has taken. In all probability he would not have died if he had taken more. These cases are dangerous, and are accounted for by the fact that chloroform does not paralyze all the reflexes at the same time and the patient dies from a combination of chloroform narcosis and shock. In an individual who is being operated upon without chloroform it is quite possible that the first incision of the knife may produce such a reflex irritation to the vagus as to stop the heart, but at the same time the same reflex irritation also stimulated the vasomotor centre and the arterioles are contracted, the blood pressure rises and that counteracts the effect of the shock. On the other hand, when a patient is fully under the influence of the anesthetic all the reflexes are paralyzed and it is impossible for him to get this shock to the heart, and the fact that the arterioles are paralyzed at the same time does not affect the situation. I think it is universally conceded that under ether all the reflexes are paralyzed more uniformly, and not one after the other as they are under chloroform narcosis; and, as regards safety, all surgeons believe that ether is the safer of the two drugs, but they are swayed by other factors to give the preference to chloroform, although they are aware that toxic symptoms are more often produced and the results more sudden and profound.

DOCTOR FROTHINGHAM: I agree more with the views expressed by DOCTOR NEWMAN. I do not think it is quite fifty years since the introduction of anesthesia—it will be fifty years in October. A former member of this society, the late departed DOCTOR NOYES, was present at that exhibition of the administration of ether. I think anyone who does any medical or surgical work feels more the danger as he grows older in the administration of an anesthetic. I have never had the misfortune to see a fatal result from it. I have, however, seen many cases with very dangerous symptoms, but I never witness an operation under anesthesia without feelings of awe and of dread. There were times when I felt more concerned about the anesthetic than any operation I ever did, and I have had to operate for aneurism of the common carotid and in other regions where you have to be on the alert for the danger in which you may place your patient. I say I look upon it with feelings of awe and of helplessness, and I would disagree with that view of the case which says 'chloroform or ether can be used with absolute safety. I remember only a short time ago when there was a death from chloroform, the physician published a long article in the newspaper stating that he had a perfectly safe method of administering chloroform. That was the boastful utterings of a quack. The method was the commonest now employed. Chloroform rapidly introduced into the system has a paralyzing influence on the heart and it should be always used first in very dilute quantities and plenty of air administered with it. Now, when you come to the question of the comparative safety of ether and chloroform, there are certain conditions in which one is safe, and certain conditions in which the other may be more safe; but notwithstanding the experiments which have been quoted here to-night, the observation of the civilized world in fifty years of actual experience, and the careful compilation of statistics, have shown each of them to have just about the same ratio —one death in three thousand from ether, and one in twenty-three hundred from chloroform. I think it is the universal experience that ether is the safest anesthetic. I heard a physician once say if the pulse is all right the patient is all right. There is no warrant for such a statement. You will see a cessation of the respiration and the pulse will beat for five minutes afterward. I think it is the general experience that ether kills by paralysis of the respiratory centre, while chloroform kills by paralysis of the heart and gives us less chance for resuscitation of our patient. There is one danger that was brought forward by DOCTOR NEWMAN that is not properly appreciated by the profession, and that is to begin operating before the patient has become thoroughly anesthetized. These are among the most fatal cases that we see recorded. The combined effect of shock and narcosis produces sudden death. LAUDER-BRUNTON explains that. If you operate you should have complete anesthesia and you should watch it. It is a misfortune that more attention is not paid to the administration of anesthetics. It is generally the practice of the profession to entrust the production of anesthesia to an inexperienced student. A surgeon, who has any considerable operation to perform, has sufficient to occupy his attention without the embarrassment of pausing in the procedure to ascertain if the patient is all right. The tendency should be to discontinue the practice of having young inexperienced students administer chloroform. Unfortunately they oftentimes do not understand the first symptoms of danger. I understand that in England they have regular chloroform administrators. I am satisfied from my own experience, from what I have read, and from the experience of others that ether is the safest, and that chloroform is the least controllable and most dangerous anesthetic. I never undertake an operation without having both by me and use one or the other as I find it necessary. Chloroform does not produce such marked vomiting as does ether, and if you desire a smooth operation you are justified in employing chloroform, if you have someone who thoroughly understands administering it.

Doctor Carstens: When I started out in practice I was an etherist. I was advised to adopt that anesthetic, and taught that chloroform was a dangerous agent. In obstetrics it is found that you can give chloroform with perfect immunity; there is no danger at all. So far as I know there is no case on record of a pregnant woman dying from the effects of chloroform. I finally drifted from ether narcosis to chloroform narcosis, and now use the latter exclusively. I think it has been demonstrated beyond question that ether has a serious effect on the kidneys. I have known some cases in which the patients were not very strong and in which death resulted after the administration from acute desquamative nephritis. I have had this happen with chloroform occasionally. Patients more frequently contract pneumonia after the administration of ether. I rather prefer chloroform, and, in regard to the other questions, I perfectly agree with **Doctor Parker** that the Hyderabad commission have given us certain ideas about the subject. I do not think, however, that we know anything about the way ether kills or the way chloroform kills.

Doctor Longyear: I think the point which is made in the doctor's paper regarding statistics is not well taken. Those statistics should read sudden death on the table and not simply death from chloroform. I think there is a distinction there. Chloroform, when it kills, kills immediately, and everybody knows that it is death from chloroform; but ether causes death from subsequent trouble, such as pneumonia, bronchitis, or disease of the kidneys, the patient dying some days afterward, and the anesthetic is not talked about; it does not get into the statistics. I believe if the true statistics were known that the proportion of deaths from anesthesia would be about equal, perhaps with the preponderance against ether. I believe ether will kill more in that way than chloroform for the reason that has been mentioned by one of the gentlemen, that it takes more ether than chloroform to produce narcosis, and on that account has a more irritating effect on the kidneys. I never had but one death due to an anesthetic. **Doctor Warner** administered the drug and it took a large amount to influence the patient. The operation was a simple one—laceration of the cervix. There should have been no reason for any bad results from the effects of the operation. The patient never regained the natural poise of her mind. We were not able to obtain any urine whatever after the operation, and introduced a catheter but still obtained none. She died on the third or fourth day in a maniacal condition. She was maniacal from the time of the operation until her death. A postmortem examination showed that the tubules of the kidneys were filled with blood. With my own experience I am inclined to prefer chloroform, but I believe that it should be watched carefully. I experience, as **Doctor Frothingham** says, a feeling of awe during an operation under an anesthetic, and it goes to that extent with me that I am exceedingly careful in selecting the person to give the anesthetic. This promiscuous plan of asking a student to give the anesthetic is wrong. I want the best man I can get to give it, and the second best to assist me, if there is any difference between the two.

Doctor Tappey: There is one thing very curious to me that happened in my own experience following the administration of chloroform, namely, the complete paralysis of an arm. I have seen very little on the subject in literature, but I have seen the subject mentioned, and I do not know whether it is the result of the poisoning of the drug, or whether, as has been suggested somewhere, possibly the position of the arm during the administration of the anesthetic. I was not aware in my case of any cramped position of the arm and it seemed to me that it was caused by the toxic effect of the drug.

Doctor Frothingham: Was this permanent?

Doctor Tappey: No, it was not.

Doctor Longyear: I had an experience like that. I operated for removal of double ovarian cyst and the woman had a partial paralysis of both hands following the operation, and she wrote me about three months ago that the disability had not yet left her. The condition of the hands was better but still there existed inability to execute nice delicate needlework, et cetera. I think there is one question that should be mentioned here regarding the administration of the anesthetic—the method of administering it with a proper instrument. There is an instrument devised by **Doctor Gailey**, of this city, which I believe is a great advance over any method we have at our disposal, and it seems to me we should use it when employing anesthesia. He has perfected an instrument whereby ether and chloroform can be administered to the patient in exact dosage. I believe it is only by some mechanically exact method that we can reach the safe administration of anesthetics.

Doctor Parker: My object in reading this paper before the society was simply to bring out a discussion of this important subject of anesthetics. It is quite true that opinion has changed in regard to chloroform and ether within the last few years. The tide has seemed to turn in favor of chloroform even during the last two years. Another thing that impresses us all is why we do not get more definite views on this question. A certain number of men will line up on each side.

STATED MEETING, OCTOBER 3, 1896.

The President, ERNEST T. TAPPEY, M. D., in the Chair.
Reported by WILLIS S. ANDERSON, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor Charles Douglas read a paper entitled "Milk Poisoning." (See page 510).

Doctor Bonning: This paper is valuable to the general practitioner who has a great many patients suffering from this disease in summer. The only question I would ask is whether washing out the stomach in such affections, if children are seen early, might not have a beneficial effect in removing the deleterious substances from the system. In the German clinics I understand they have very good results from washing out the stomach. This is not a very difficult matter to do with a soft tube.

Doctor Tappey: Would it not be rather difficult to wash out milk?

Doctor Bonning: If seen early it does not seem to me that it would be difficult.

Doctor Longyear: The subject treated in this exhaustive paper is of special interest. We have known always that there is danger in fermentation of milk, but in recent years, since better knowledge of bacterial growth has been attained, this danger has become much more apparent. It all points to the desirability of impressing upon those rearing children the necessity of using sterilized milk, and if they do not know how to sterilize it to teach them how, not only for the destruction of those germs mentioned in the paper but for tubercular and other germs. This is a very important matter. The number of cows that are being found tuberculous in the state of Michigan is marvelous. Especially are the Jersey cattle found to be tuberculous, and their milk is very dangerous. As the doctor was reading his paper it struck me that possibly the serum therapy may come into play in these poisoning cases. I believe that when these germs reach a certain stage it is beyond the power of the physician to destroy the poisons in the alimentary canal, and we have to do something to destroy the germs in the blood. I think we might find something valuable in that line.

Doctor Chittick: We hear a great deal about milk being the very best culture medium for germs but still we hear very little about milk producing poisonous germs. I have seen cases of milk poisoning in adults. I had four cases in one family about two years ago, where the patients were three young women and one boy about seven years old, following one another, and the symptoms of which were not indicative of any distinct disease. I made up my mind that the milk they were using was the cause of the trouble and I called in the chemist of the Board of Health and he went to the dairy and found everything perfectly clean. His theory was that the milk was served while it was warm.

I did not agree with him. So far as the house of my patients was concerned he thought there was contamination there also from the storage of vegetables in the house, but this was not so. I examined the sink in the kitchen and there was the usual trap on the waste pipe. I could not make up my mind where the contamination began, but there certainly was a cause for the poisoning. Some eight years ago I was myself slightly poisoned with milk. It was my custom to take a glass of milk with crackers every night just before retiring, and after two weeks of the drinking of that milk I was taken sick with a depressed feeling and quite severe pain. I made up my mind that it was due to the milk. I asked the lady of the house to go over and see if everything was clean, but without any result. It seems to me that the simplest treatment would be to clean out the stomach and intestines at once with a brisk saline cathartic and give a copious enema. In such cases I find the best results from small doses of the red iodide of mercury in the form of pink powders.

Doctor Carstens: I have thought that milk would cause poisoning in two different ways. First, as a carrier of germs, and that seems to me a very serious matter indeed, especially the carrying of typhoid fever germs. I believe Doctor Christian, of Wyandotte, called attention some years ago to the fact that cows drinking water in the little creeks and rivers containing the germs of typhoid fever might have the germs transferred to the milk and thence conveyed to human beings. In like manner the germs of scarlet fever or diphtheria, by passing through the cows in that way, can be carried to the body and implanted in the system. Then, again, you have poisons formed in the intestines by pathological fermentations and putrefactions of the substances within the bowels induced by microorganisms which result in the formation of ptomains. These are purely chemical combinations and the effect is purely chemical. That is the way I understand it. I think the proper course to pursue is to wash out the stomach and bowels. Would it not be a good plan to try the so-called "Woodbridge treatment in this disease?

Doctor Deuel: A few years ago I was called to a family suffering from milk poisoning from milk which they procured at a creamery. One child did not drink the milk at all, but the mother and three other children who partook of the milk were stricken ill and suffered in proportion to the quantity of milk ingested. They were vomiting and I encouraged this by giving them large drafts of warm water and they all recovered. In children we can encourage them to take large quantities of water and thus wash out the stomach involuntarily.

Doctor Longyear: Doctor Carstens spoke about the cows who filtered the typhoid fever germs through them to the milk. I remember at the time of that discussion it was a mooted question whether the cows filtered these germs through them or whether the dairyman put the contaminated water from his well into the milk before he sold it. I believe that is the most common way for it to become contaminated.

Doctor Douglas: Several members have referred to the washing of the stomach in these cases, and there can be no question indeed but that in suitable cases this may be tried. Of course it will depend largely upon the length of time that the milk has been in the stomach whether it can be washed out with a stomach tube or not. In young children it is a difficult task to perform. I think by the principle which Doctor Duel has referred to we can accomplish washing out the stomach. As a usual thing nature has anticipated our methods by causing very copious emesis. I do not know wherein serum therapy offers anything in these cases. My understanding of serum therapy, as it has been developed up to the present, is that it is not an agent which acts upon the blood so rapidly as to be successful in the treatment of these acute forms of stomachic affections. I did not touch upon the subject of tuberculosis in animals. I might say with regard to Doctor Longyear's reference to tuberculous cattle that it has been proven by actual statistics that tuberculosis does not show any particular love for thoroughbreds any more than for low grade cattle. All grades suffer alike. I do not believe it is possible to get good milk within hauling distance of any large city. My experience is that the farther the milk is brought in the better it is. Farmers in close proximity to large cities frequently feed their cows with the refuse from glucose factories, brewers' grains, et cetera, which is not the case with those who live at greater distances. As between the two I always obtain the best results from milk drawn from a distance. For a good many years back I have refused to allow children to be fed with milk produced within a short distance of the city. Many children can take this milk without any trouble but in those having delicate stomachs it is more difficult to find a quality of milk suitable to them. This subject of typhoid fever recalls to my mind an epidemic which occurred in the state of Connecticut within the past year. The Board of Health traced its origin to the product of one particular milkman and by prohibiting the sale of his milk soon stamped out the disease. Doctor Carstens refers to the different kinds of poisons. It was not my intention to take up the different chemical forms or poisons. The ptomains I thought were of the bacterial order, and that they belonged to that family we were dealing with at the present time, and the chemical poisons which he speaks of were the tyrotoxicon poisons spoken of by Doctor Vaughan, of Ann Arbor.

Doctor Longyear: I would like to say a few words about the Pasteurization of milk. I was very much interested a few days ago in going through a milk factory where they prepare milk for the city. It was a process whereby the milk was heated to a temperature of 150° and then cooled down to 50°, and then heated and cooled again, this process being carried out three times by means of a series of disks through which the milk is passed. It is then immediately put in bottles, sterilized and then placed on ice and brought to the city in that way. I believe milk prepared in that way is as pure as it can be made. It was interesting to me to see the precision with which the plan was carried out. When I was in general practice I remember that in the eastern part of the city I found many Germans who boiled the milk as soon as it came into the house, and I have no doubt but that habit would be serviceable now. It is held by some that when you boil the milk you destroy some of its nutritive qualities.

Doctor Douglas: Doctor Longyear speaks of this method of Pasteurization of milk, and its transit to the city in properly sealed bottles, but the only difficulty I can see to that is that you would require some custom house official to put a stamp upon it the same as they do with Walker's club whisky to insure its being bottled at the works. It is a fact that some of the nutritive qualities of the milk are unfavorably affected by boiling it,

Doctor Dwyer: I was very much interested in the remarks of one of the gentlemen as to the Pasteurization of milk. I recall a little experience we had in our family with the preparation of milk for our little baby who was nursed on the bottle. We obtained our milk from a reputable dairyman and as soon as the milk was received we proceeded to sterilize enough of it to last a day, and never experienced any trouble with it until one Christmas morning when we set out to visit my wife's sister in a different part of the city to that where we lived. The milkman came along and we prepared the milk in the usual way and when my wife got over to her sister's she took out the bottle to feed the baby and the milk was as thick as jelly and as sour as any milk could be. In my private practice I have kept children alive for three months in succession with rice water. Would it not be a good plan to start them on rice water diet before they become poisoned with the milk.

Doctor Chittick: I wish to take issue with Doctor Douglas regarding the nutritive qualities of the milk being destroyed by boiling. On the contrary I hold that it is benefited by sterilization provided the process is not carried too far.

Doctor Douglas: I merely claimed that the lactalbumin was destroyed. Certainly the casein is all left there. The great difficulty has been to find some process by which the casein can be split up. All sorts of methods have been tried—by dilution, attenuation, et cetera. In connection with rice water as a substitute for milk it is a very valuable food when prepared in the proper manner. There are two layers to the grain, gluten outside and starch inside. If you will boil it sufficiently to get off the glutinous part you will find it a very nutritious food for a little child, but if you carry the process too far you will dissolve the starchy part and it is not advisable to give this as it is more difficult of digestion. For a light nutritious and exceedingly suitable drink I do not believe there is anything more valuable for a little child when affected with milk poisoning.

EDITORIAL ARTICLES.

THE PROGNOSIS OF LONGEVITY.

To make a prognosis of longevity or otherwise, by more specific inferences than those which form the basis of life insurance operations would seem so obviously useful that it is surprising why more research should not have been expended upon the interesting subject of senile alterations and the indications of physiological decay. There is a widespread belief, more or less well-founded, that disease rather than decay has been the cause of death in the most advanced ages hitherto recorded, and this belief is fraught with the hope that some day science will make the patriarchal ages again our own. METHUSELAH and TITHONIUS may be Grecian or Hebraic aspects of the same myth, yet they stand for certain human aspirations the vanity of which will never be completely admitted so long as self-delusion remains an objective and attainable end.

A recent investigator of those indications which point to long life comes to the conclusion that every one carries with him the physical indications of his longevity, and that a short or long lived subject may be distinguished at sight.

The first and most important indication of longevity is that undoubtedly derived from inheritance. It may be predicted within narrow limits at what period the maple leaves will turn red and gold from habitual observation of those which before them littered "the primrose path to the everlasting bonfire." This sort of longevity is the inherent or potential longevity, the average of the human organism. When inheritance is varied, or differs on either side, the question is more involved. The longevity of hybrids has to be studied, and it is shown that in hybridizing nature makes an effort to pass the period of shorter longevity and extend the life of the longer longevity. This is an important point and one worthy of remembrance, when estimating the fortunes of a subject in which the effect of hybridizing is demonstrated.

These are some of the indications of longevity formulated by MR. F. A. WARNER in a paper recently submitted to the Academy of Science: "The primary conditions of longevity are that the heart, lungs and digestive organs, as well as the brain, should be large. If these organs are large the trunk will be long and the limbs comparatively short. The person will appear tall in sitting and short in standing. The hand will have a long and somewhat heavy palm and short fingers. The brain will be deeply seated as shown by the orifice of the ear being low. The blue hazel or brown hazel eye, as showing an intermission of temperament, is a favorable indication. The nostrils being large, open and free indicate large lungs. A pinched or half-closed nostril indicates small or weak lungs."

Possibly the description given above of the long-lived subjects' characteristics, does not place adequate insistence upon the part played by the circulation. That a man is as old as his arteries is an adage which the wisdom of experience largely confirms. A man's development is a physiological process dependent upon tissue changes, and it may, of course, attain its natural termination before as well as after any given period. If life be "a continuous adjustment of internal to external relations" death must be "a failure to balance ordinary external actions by ordinary internal actions." To indicate why this failure should occur is to explain the initial cause of decay, and this registration statistics would perhaps erroneously suggest, is more often due to accident and disease than to any natural cause of organic dissolution. Speaking, indeed, purely in the light of statistics few would die unless for some morbid catastrophe, and but for this there would be no good reason why the adjustment of internal to external relations should not go on indefinitely. Just when and where man "put on mortality" is not yet apparent.

ANNOTATIONS.

KLEPTOMANIA.

THE case of MRS. CASTLE has been one of international interest. The facts of the case would indicate mental disease. MR. CASTLE and his wife went to Europe well provided with money and introductions. At the end of their holiday they were found in possession of a perfect museum of stolen articles, and MRS. CASTLE was proven to have stolen them. MRS. CASTLE pleaded guilty and was sentenced to three months imprisonment. While no previous instance of kleptomania appears to have been observed in her, she was known to have been very hysterical and to have suffered from uterine disease. Kleptomania is often regarded as a rich man's disease, but the consensus of testimony in this case attests in the unreasonableness of the thefts and the medical testimony confirms the degree of mental impairment, upon which MRS. CASTLE's pardon was ultimately secured.

CYCLING IN CANADA.

THE editor of *The Dominion Medical Monthly* charges the bicycle with being the means of producing some exceedingly unpleasant results in women. The editor is certainly in possession of some unusual information, or is grossly slandering the fair name of his countrywomen. His opinion of the bicycle and its effects calls for immediate confirmation if true, and if false no retraction of his views can be too forcible or pronounced.

CONTEMPORARY.

MEDICAL TECHNICS.

[THE AMERICAN MEDICO-SURGICAL BULLETIN.]

WITH the development of practical science along the lines of acoustics, electricity, and optics, and even in the merely mechanical divisions of natural philosophy, exact methods in medicine and surgery become possible. Thus it is that the practitioner of to-day depends upon scientific instruments and the definite results of physical and chemical examinations in cases in which the physician of two generations ago would have had to rely on intuition born of experience, and that form of refined guesswork which we call judgment. This change in methods is not peculiar to medicine; it is seen even more perfectly in those arts and applied sciences that have the benefits of a freer expenditure of money than is possible by poorly paid professional men. The contrast between the mathematical and automatic handling of a modern man-of-war and the pure seamanship displayed by older naval heroes—that between modern and ancient means of transportation—affords us a conception of what medicine might do if backed by national and popular interest. In all ways we are exchanging delicate training of the special senses for technical skill in the management of instruments, and the rapid reasoning of induction for the slower, less brilliant, but surer logic of deduction.

The older physicians recognized diseases as we recognize the countenances of enemies. They saw a characteristic malar flush in pneumonia which our duller eyes fail to notice; but, on the other hand, they had no clear conception of what pneumonia was, nor were they versed in the logical deduction of disease by the various acoustic methods of physical diagnosis. The success of the modern physician depends largely on the possession of instruments and the requisite time and skill for their use. Not very rarely one encounters some quite distinguished physician or surgeon whose diagnostic power is due to his ability to pay some skillful but unknown assistant, and to furnish for the latter instruments which he himself cannot manipulate.

Chemistry, microscopy, electricity, acoustics, all lend their aid to the physician, and in turn demand an extension of his technical knowledge and an addition to his armamentarium. The progress of medical technics has already reached a point where the self-supporting practitioner is either too poor or too busy to follow. The mere difficulty of manipulating certain instruments, and the expense of the same, have accomplished limitations of practice that are not strictly logical. We may in the near future find specialists devoting their entire attention to diagnosis and treatment demanding the use of some form of endoscope; others working with the Röentgen rays and employing ordinary photographic methods; others limiting themselves to a few delicate manipulations in the throat and ear. Already we find gynecologists who scorn everything but the abdominal section, men whose practice is almost entirely restricted to the administration of anesthetics, medical literateurs, medical chemists, bacteriologists, and those whose professional visits are only made to the dead. Less than a decade ago bacteriology was considered the acme of pathology; now the two branches are practically distinct.

With this tendency to specialism, and the growing refinement of methods of diagnosis and treatment, physicians are becoming more and more dependent upon one another. Consultations have become more frequent and they have already taken on quite a different character from the exchange of opinions—learned, but nearly valueless—at the house of a dying patient. The uselessness of the deathbed consultation is becoming better recognized by the laity, and it is in the hopeful and the doubtful rather than in the serious and desperate cases that the need of assistance is felt. But the problem of giving patents the benefit of modern medical skill is not fully nor satisfactorily solved by a multiplication of consultations. Patients are already learning, with or without the acquiescence of their regular attendants, to seek specialists independently, particularly when the specialty in question is a mechanical one, or one in which local treatment is mainly involved.

It is, thus, only in the most incidental manner that the general practitioner knows of the visits of his patients to the dentist or oculist; and to an increasing degree the same is true of the laryngologist and of specialists in other branches.

There are a number of instruments, including those for transillumination of the body, and various other applications of the powerful electric current, which the average physician is deterred from using, not from lack of skill, but because their need is only occasionally felt, while their cost is out of proportion to their commercial value to the doctor.

MEDICAL NEWS.

THE PASSING OF A PROMINENT PHYSICIAN.

Doctor Edmund Potts Christian, of Wyandotte, Michigan, died at his home on the 17th instant, of arterial neuritis. Failing health compelled the doctor to abandon practice nearly two years ago. His demise came peacefully after an unconsciousness of several days. He was born in Friendsville, Pennsylvania, on April 23, 1827, and came to Detroit with his father when seven years of age. Here he prepared himself for college and entered the literary department of the University of Michigan, graduating with the class of 1847. Six years later he received the degree of Doctor of Medicine from the medical department of the University of Buffalo. His professional career had its inception in Detroit, where, in 1854, he was married to Miss Mary H. Foster, a neice of the late Richard Hawley. In 1856 he was appointed city physician of Detroit, and later removed to Wyandotte, where he successfully practiced the healing art for nearly forty years. For a long period he was the only physician in that section of the county, and his ride covered an area of many miles. Doctor Christian had been the recipient of many honors from the profession of the state. In 1885 he was president of the Michigan State Medical Society, of which he had previously (1873) been one of its vicepresidents. He also represented this society in the capacity of delegate at various gatherings, and in 1876 attended the International Medical Congress assembled in Philadelphia, as a representative of the University of Michigan, of which institution he was also a member of the board of visitors. He was a writer of medical papers and a promoter of the medical press, and many of his productions have appeared in The Physician and Surgeon, of which he was a subscriber from its inception. He was prominently identified with the early medical journalism of the state, having occupied the editorial tripod on *The Peninsular Journal of Medicine* and *The Detroit Medical Journal.* As a citizen the doctor enjoyed the confidence and esteem of his townspeople and had been selected to represent them in the capacity of councilman, mayor and member of the school board, holding the latter position twelve years. He was a charter member of the Wyandotte lodge of masons, the Wyandotte lodge of knights of honor, and a senior warden of Saint Stephen's Episcopal church. A widow and two sons survive him—Doctor E. A. Christian, superintendent of the Eastern Michigan Asylum for the Insane, and T. H. Christian, deputy clerk of Wayne county.

A CHANGE OF NAME.

THE editors of *Mathews' Medical Quarterly* announce that with the January issue of that publication its name will be changed to *Mathews' Quarterly Journal of Rectal and Gastro-Intestinal Diseases.* This is a change which has been deemed necessary for some time, as it is essential that the title of a medical journal should convey to the reader an idea of its contents, and this has not been the case with its name from the beginning. There will be no change in the policy of the journal in the least. As it will continue to be the only English publication devoted to diseases and surgery of the rectum and gastro-intestinal tract, the articles which will appear in it will be limited to these subjects. The journal will continue to be edited by Doctors J. M. Mathews and Henry E. Tuley, and published in Louisville, Kentucky.

ARTIFICIAL RESPIRATION SIMPLIFIED.

CALLIANO has announced a new method of artificial respiration. It consists in placing the patient in Sylvester's position, and then drawing up the arms until the thorax is fully expanded, when they are fixed above and behind the head by tying the wrists together. Respiration is now induced by pressure with the hands upon the thorax at the rate of eighteen or twenty times a minute. The advantages claimed for this modification of Sylvester's method are: (1) Its greater simplicity; (2) The much smaller amount of labor required, and lessened fatigue of the operator; (3) The absence of danger from contusion of the shoulder-joints; (4) The ease with which such a method could be taught to and practiced by uneducated and untrained people.

MINOR INTELLIGENCE.

THE Rush monument fund has reached $3,886.39.

MANY physicians in Russia receive only fifteen cents for a consultation.

THE board of health of Richmond, Virginia, is menaced for the want of money.

THE Wisconsin Eclectic Medical College has been sacrificing medical diplomas for $35.

ONE-FOURTH of the population of New York City receive their medical attention gratis.

THE New Orleans University Medical College has established a training school for colored nurses.

THE New York City board of health is considering the question of banishing dogs from the public thoroughfares.

BELLEVUE HOSPITAL is to have a two-story brick boiler and laundry house which will cost $85,000; also a two-story brick isolating hospital at a cost of $45,000.

WHERE is "Kahlmazov, Michigan"? *Le Medecine Moderne* is authority for the statement that the bicycle is employed as a therapeutic agent, with marked success, in a hospital for the insane at that place.

ALBU claims that to Schwann's merit, instead of Pasteur's, belongs the credit of having demonstrated that putrefactive processes are inaugurated by microorganisms. He alleges that Schwann's discovery was made in 1836.

PROFESSOR DONNEUN DE SYKE has discovered a form of radiation that outdistances the Roentgen rays by several inches. It is capable of penetrating a plate of iron eight inches in thickness, photographs having been made through such substance.

LAUDENBERG has discovered that if warts, condylomata, angiomata, et cetera, be touched with fuming nitric acid and then immediately afterward with pure liquid carbolic acid they will be effectually destroyed by the strong chemic action which results.

BARBACH treats acne by increasing diuresis. He advances the theory that the affliction is due to an excess of solids in the blood, and that this condition irritates the sebaceous glands. Locally he employs a soap containing about 1.5 per cent. of iodate and bromate of sodium.

BARRIERE has been delving in monanzite sand for hidden treasures and announces the elimination of a new chemical element which has been christened lucium. It is likened unto erbium as regards its spectrum, but bears no affinity for either sodium or potassium sulphate, contact with these products failing to form insoluble salts.

A DUMB thermometer is on the market. The temperature is not indicated by a scale upon the instrument, but instead a close-fitting case bears the markings and the physician is enabled to read the temperature when the thermometer is encased. This invention is calculated to obviate the depressing effects incident to patients catching a glimpse of their fever record.

JOLLY has been investigating the hypnotic properties of pellotin. The drug, which is an alkaloid obtained from anhalonium Williamsii, gave satisfactory results, though in varying degree, in forty cases subjected to oral and subcutaneous administration. The dose is from one-third to two-thirds of a grain, repeated if necessary. An instance occurred in the observations of the experimenter in which one and one-half grains were given within two hours.

THE Roentgen rays and fluoroscope has rendered visible the outlines of the human heart. The procedure contemplates placing a piece of white paper on the back of a screen and tracing the outlines of the heart thereon with a metallic pen introduced between the screen and the chest. The point of the pen being readily seen the outlines are traced without difficulty. Greater accuracy of measurement is attainable by this method than is possible by the percussion method.

AT the sixth annual meeting of the New York State Association of Railway Surgeons, which recently occurred in New York City, the following officers were elected for the ensuing year: President, Doctor J. F. Valentine, of Brooklyn; first vicepresident, Doctor George Graves, of Herkimer; second vicepresident, Doctor F. H. Peck, of Utica; secretary, Doctor C. B. Herrick, of Troy; treasurer, Doctor T. D. Mills, of Middletown, chairman of executive committee, Doctor George Chaffee, of Brooklyn.

RAPIN has devised a new method of arresting hemorrhage from an artery situated in bony tissue of the spongy variety. He nails the vessels. Cobbler's nails, previously disinfected, are employed for the purpose. When the operation is completed the nails are removed, but should hemorrhage ensue they can again be inserted and allowed to remain. The procedure is highly commended in Kraske's operation, only six nails being required to obviate the hemorrhage incident to dividing the sacrum.

DOCTOR H. NEWELL MARTIN, formerly professor of biology in Johns Hopkins University, died in Purley, England on October 29. The doctor was a native of Newry, Ireland, and forty-eight years of age at the time of his demise. He was a fellow of Christ College, Cambridge, and received the degree of B. A. in 1874, and that of M. A. in 1877. At the opening of Johns Hopkins University he was appointed to the chair of biology, a position he admirably filled until 1893, when ill-health compelled a respite from labor. As a student and teacher of biology his reputation is international.

THE Southern Surgical and Gynecological Association convened in ninth annual meeting at Nashville, Tennessee, on November 10, and continued its sessions three days. The literary program involved many valuable papers which elicited animated discussion. The social amenities comprised a banquet and a barbecue. The election of officers resulted in the following being selected for the ensuing year: President, Doctor George Ben Johnson, of Richmond, Virginia; vicepresidents, Doctor F. W. McRae, of Atlanta, and Doctor W. E. Parker, of New Orleans; chairman of the committee of arrangements, Doctor H. H. Mudd, of Saint Louis; member of the judicial council, Doctor E. S. Lewis. The next meeting will be held in Saint Louis in 1897.

RECENT PUBLICATIONS.

REVIEWS.

PRACTICAL POINTS IN NURSING.*

THIS manual of nursing contains an amount of information which can only be realized by careful perusal of its contents. The work not only traverses the general and routine duties of the nurse, but affords a vast amount of information on all collateral subjects. It is the best work of its kind now before the public, and should be extensively patronized in training schools.

*By Emile U. M. Stoney, Superintendent of the Training School for Nurses, Carney Hospital, South Boston. Illustrated. $1.75 net. W. B. Saunders, Philadelphia.

A MANUAL OF MEDICAL JURISPRUDENCE AND TOXICOLOGY.*

A manual of jurisprudence, concise in form and divested of all superfluous matter, is offered the profession in Doctor Chapman's excellent little book. Copious engravings elucidate the text, and the work is modern in spirit and application.

*By Harry C. Chapman, M. D., Professor of the Institutes of Medicine and Medical Jurisprudence in the Jefferson Medical College, of Philadelphia. Second edition. W. B. Saunders, Philadelphia.

WHARTON'S MINOR SURGERY AND BANDAGING.*

The merits of this well-known manual have so often been noticed in this journal that we need not do more than once more draw attention to the new and revised third edition. As a manual of minor surgery, Doctor Wharton's work will continue to enjoy indisputable popularity.

*By Henry R. Wharton, M. D., Demonstrator of Surgery in the University of Pennsylvania. New third edition. In one 12mo. volume of 594 pages, with 475 engravings, many being photographic. Cloth $3.00. Philadelphia: Lea Brothers & Company, 1896.

BORDERLAND STUDIES.*

These essays from Doctor Gould's vigorous pen will be found interesting and entertaining. They are marked by a sturdy skepticism whenever the author assails any of the many delusions with which the credulous are beguiled. While the trancendental tone of much that is stated will not ensure conviction to all readers, none can fail to be interested in the lively and piquant style of criticism. Every physician should read the "Borderland Studies."

*Miscellaneous Address and Essays Pertaining to Medicine and the Medical Profession, and their Relations to General Science and Thought. By Geo. M. Gould, A. M., M. D. Price $2.00. P. Blakiston, Son & Company, Philadelphia.

FOOD IN HEALTH AND DISEASE.*

The importance of nutrition is not to be measured by the number of manuals dealing with the subject. There are probably five manuals of surgery published to one in dietetics. Doctor Yeo's work upon food in health and disease has for a long time been a recognized authority. The new edition has been enlarged and amplified in many ways. The physician will find the work a rational exposition of the subject.

*By I. Burney Yeo, M. D., F. R. C. P., Professor of Therapeutics in King's College, London. New second edition. In one 12mo. volume of 592 pages, with 4 engravings. Cloth, $2.50. Lea Brothers & Company, Publishers, Philadelphia and New York, 1896.

MANUAL OF MIDWIFERY.*

Intended for the students of the University of Edinburgh, this excellent manual will by virtue of its merits doubtless become popular with students on this side of the Atlantic. It is written in a singularly lucid and brilliant style, and can be read with pleasure for its pure and vigorous use of the English language. The book is carefully and profusely illustrated, and will be found an excellent guide for students to follow.

*For the Use of Students and Practitioners. By W. E. Fothergill, M. A., B. Sc., M. B., C. M., Buchanan Scholar in Midwifery, University of Ebinburgh. The Macmillan Company, New York.

The Physician and Surgeon

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ORIGINAL CONTRIBUTIONS.

MEMOIRS.

SURGICAL DRESSINGS.*

BY DONALD MACLEAN, M. D., LL. D., DETROIT, MICHIGAN.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

To THE student of today, who in a few brief practical lessons acquires the simple and unostentatious art of dressing a wound either accidental or surgical, the vastly different methods of bygone times must seem no less fearful than wonderful.

The carefully and classically written details of the vast complicated painful dressings, with their superstitious attention to innumerable considerations which larger experience and clearer science have long since relegated to the limbo of the forgotten and the condemned, constitute a most interesting chapter in surgical history.

Within the distinct memory of a considerable proportion of the membership of this association, the technique of surgical dressings has passed through a vast and varied programme of changes. It would be tedious and unprofitable to inflict upon this audience an exhaustive review of these earnest and loyal efforts toward the devoutly to be wished-for goal of perfection. A more profitable and appropriate attitude, it seems to me, is one of enquiry as to whether there is not even yet something left to be desired; something to be accomplished; something to be hoped for in this common, everyday, all-important department of surgical work; and in our struggles forward and onward in this field the thought is irrepressible and undeniable that the whole past history of the subject coincides in impressing this one great fundamental lesson, namely, that just in proportion as the methods and procedures have become simplified our results—immediate and remote—have become more and more satisfactory. So far as the mental condition of the public in general is concerned as regards matters medical and surgical, I feel happily confident in the belief that in our time there has been a very material improvement. Especially is this true as regards matters surgical. There is, I am convinced, more of scientific reasonableness and less of medieval superstition and prejudice among the people everywhere than there was when I was young, and still it would be absurd to claim that there is not plenty of room for still further improvement in this respect. It is more easy and safe now for the surgeon to preach and practice faith in simple and unostentatious methods than it used to be; so that if a surgeon feels safe in resorting to extremely elementary appliances in the treatment of wounds, either accidental or surgical, or in treating fractures with very primitive dressings, splints or supports, or even discarding these entirely as he well may in certain cases, he is not so likely to be met with a storm of orthodox and most devout protestations based on the inherited experiences and legends of all the grandmothers—male and female—who have lived and left their impress on their posterity.

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* Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

For my own part I have established as an important article of my surgical creed the doctrine that the oftener we are able to dispense with dressings or appliances of any kind the better for our patient as well as for our own peace of mind. In operations about the lips, the face, the scalp, the external genital organs and in superficial wounds generally anything beyond sutures of absorbable material, and just of sufficient strength to give proper support, I consider unnecessary, and of course if unnecessary, improper. In circumstances in which some additional covering or support may be required, then the plainer and less complicated the technique and the material used the better.

My attention has recently been attracted to asbestos as a possible addition of merit to our list of surgical dressings. A paper by SURGEON KANE, of the United States army, has set forth in suitable terms the claims of this material to our thoughtful consideration, and from what little thought and observation I have been able to devote to the subject, I feel justified in calling the attention of this association to it. It is at the present time prepared for the use of surgeons by a well-known wholesale manufacturer in New York who professes his perfect willingness to listen to and follow out any suggestions which may come to him from practical surgeons. I here present a few samples illustrative of the forms which this material may be made to assume and these will at once suggest the uses to which it may be possible to apply it.

THE ANATOMY AND FUNCTIONS OF THE FOURTH VENTRICLE.*

BY FRANK S. HOUGH, M. D., DETROIT, MICHIGAN.

PROFESSOR OF MATERIA MEDICA IN THE MICHIGAN COLLEGE OF MEDICINE AND SURGERY.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY.]

I BELIEVE that the profession, generally, are ignorant of even the grosser anatomy and physiology of the nervous system, and are wont to cover their ignorance of specific knowledge about these parts by indulging in vague generalities, and, although I do not wish to include any member of this society in my sweeping statement, I believe that a little discussion on the matters which I will endeavor to introduce will tend toward a good result.

After we get out into practice, we are prone to neglect the elements of medicine and devote too much attention to such practical matters as more directly concern us in our practice; but, I have always believed, since my matriculation, that he who is master of the fundamentals is more practical and scientific; and, in my estimation, there is no branch of medicine that ought to be more thoroughly studied and learned than anatomy, including physiology, or physiology including anatomy. It must be the very foundation of everything truly scientific. With this plea for anatomy, as my excuse for offering a paper of this character, I will try to briefly describe the anatomy and physiology of the most vital of all regions in the animal make-up.

The ancients have located the seat of the soul of life in various places within the encephalon. The pineal gland, the pituitary body and other small and obscure structures have each, from time to time, been the preference, but I will warrant that if they were as conversant with physiology as they were deficient they would have chosen that region where a host of automatic acts are started, the acomplishment of which constitutes all of the familiar and conspicuous phenomena of life. In this paper, after describing as graphically as my poor pen is capable of, the anatomy, I wish to bring out the fact as prominently as possible that the medulla and particularly its posterior aspect, which enters into the formation of the floor of the fourth ventricle, is the initial starting point of respiration, circulation, nutrition and all of the complex mechanical and chemical processes and actions which are the only evidences of life we possess, except those of a voluntary and psychical nature, presided over by the nervous structures above. No other portion of the brain regulates the functions of organic life, and, however important the cerebrum may be for the exhibition of the highest form of nervous action, it is not directly essential for the continuance of life.

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*Read before the WAYNE COUNTY (Detroit) MEDICAL SOCIETY.

The medulla is generally looked upon as *only* the upper end of the spinal cord, differing only slightly from the cord in its anatomy and functions; but, how totally inadequate this idea is, I will try to make plain; and since my paper has more directly to deal with the ventricular surface of the medulla, I will digress as little as I can without leaving out important facts. Crudely speaking, gray matter is composed of cells for the generation of nervous energy and this function prevails whether the gray is part of the cerebral cortex, of the basal ganglia, or in the medulla or cord. The gray cells make the energy. Wherever you find white matter you have parallel fibres for the conduction of the nervous energy generated by the gray cells. The gray, then, is more vital because it makes the force, while the white simply conducts. A perfect condition of health and integrity must exist in both white and gray to accomplish the performance of function of the gray. Each gray cell is connected in some way with one end of one or more nerve fibres, so that the force made in the gray cells is transferred to the most remote parts, if the white fibres are healthy, and everywhere is the system vitalized by this transference of energy. Gray matter "likes" to appear at the surface in preference to the interior and Nature has kindly arranged things to give it the necessary elbowroom. See what an extent of surface is arranged for the gray cells on the convex surfaces of the cerebral hemispheres and how much the area of that surface is increased by the convoluted or rolled disposition of the gray mantle. At first sight, this inclination would seem to end here, for we know that in the cord the gray is on the inside, while the bundles of white fibres form the columns on the outside; but, I think I can point out how it still makes its effort for surface distribution, even in the cord. The outer portion of the cerebellum is also gray. As we are all well aware, we have two surfaces to our rough organism. We have a cutaneous or outside surface and mucous or internal surface. The central nervous system has its outside or cortical surface and its inside or intraventricular surface, and the more delicate and vital of the nerve cells appear principally upon this internal surface. There is hardly a ganglionic mass of gray cells but either appears on the outside surface or upon the internal surface. The great basal ganglia, including the corpora striata, the optic thalami, corpora quadrigemina, and a considerable number of other gray bodies, appear to a more or less extent in the various ventricles, where they find relief from pressure, or an equable condition of mild and constant pressure. I have heard nowhere this excuse for the existence of the ventricles but I firmly believe that the ventricles were formed so that these wonderfully vital structures could be exposed, without any danger to varying degrees of pressure or of violence of any kind. To illustrate: If the gray matter of the floor of the fourth ventricle were placed instead upon the cortex over the frontal or parietal region, how readily would a blow upon the head disturb or suspend its function, and if that should happen for ever so short a time, death would be inevitable. The floor of the fourth, besides being the most vital, is best protected of all anatomical structures. This dividing off of the general ventricular cavity into the lateral ventricles, the foramina of Monroe, the third ventricle, the aqueduct of Sylvius, the fourth ventricle and the central canal of the spinal cord, is only for anatomical consideration, since the cavity is continuous, with various expansions and contractions, from the anterior horns of the lateral ventricles to the end of the central canal at the lower portion of the spinal cord. The cord itself, you see, has its contained ventricle or internal surface for the gray to appear even though its calibre be small and its cavity minute. The whole cerebro-spinal axis is hollowed out into a cavity filled slightly with the softest of all known substances—water. There are two sacs that contain the fluid also within the outside membranes of the brain which communicate with this general ventricular cavity. These subarachnoid spaces, as they are called, can receive the excess of fluid in the ventricles if extra pressure anywhere from congestion of the blood-vessels in the brain or other cause suddenly calls for the exit of some of this fluid from the ventricular cavity. The whole internal surface of the ventricular cavity is not lined with gray matter. In the smaller circumferenced portions, such as the central canal of the cord, the aqueduct of Sylvius, the foramina of Monroe, the whole inner surface exhibits gray matter; but, in the intermediate expansions known commonly as the ventricles, the relief of pressure and other economics of anatomy cause the cavities to be larger than the gray matter can line. In most cases, the gray matter is upon the so-called floors and lateral walls. The gray matter does not extend in a continuous sheet throughout the whole cavity, but from the lower commencement to the third ventricle the gray is continuous. In some of the ventricles the gray matter appears in large masses, round or irregular in shape and known by various names (unnecessary to be mentioned here), while in the aqueduct of Sylvius, the fourth ventricle, and the central canal the surface is comparatively smooth and unmarked by elevations and depressions.

The spinal cord, although not to be considered minutely in this paper, must be touched upon briefly, to show the formation of the fourth ventricle. The cord consists of two exactly symmetrical halves. These halves are lateral halves. There is a vertical fissure running the full length of the cord in front and also a similar fissure behind. The anterior fissure is the deeper, but the posterior median fissure is somewhat wider. Each fissure although well marked is not deep enough to penetrate the gray matter in the interior of the cord. Now each lateral half of the spinal cord is again fissured (very obscurely below but rather distinctly above) by two vertical furrows. This fissuring of the outside of the cord, you can readily see, divides the cord into columns made up of bundles of white fibres. These white fibres originate in the gray cells in the brain above and are given off to the spinal nerves, but the gray cells all the way down the cord also furnish fibres so that the cord does not decrease in size from above downward as rapidly as one might think at first. You see, then, that each lateral half must have three columns, the anterior, the lateral and the posterior. That would give six columns to the outside of the cord; but in reality there are eight columns to the cord, four in each lateral half. The posterior column, although not divided by any longitudinal furrow into two columns, is nevetheless so divided by a septum of pia mater into two almost equal parts, called respectively the posterior external, and the posterior median column. The kinds of fibres in these columns do not here concern us—neither does the origin or peripheral termination of them. The gray matter on cross section of the cord, roughly speaking, is seen arranged as a crescent in each lateral half, the centre of each crescent being continuous by an isthmus or bridge, so that the gray matter in both lateral halves and also in the very central portion of the cord is continuous. The central canal of the spinal cord, already freely reerred to, is a bore extending the whole length of the cord and entirely within gray matter.

The reason I have brought in the crude anatomy of the spinal cord is to show how this central canal is finally converted above into the fourth ventricle bythe peculiar behavior of the columns at the back of the cord or the posterior folumns. The central canal in most of its length occupies the approximate geometrical centre of the circumference of the cord but as the canal ascends in the region of the medulla it gradually inclines more and more backward and becomes more and more superficial. Now, as we approach the medulla from below, the columns composing the cord do not change in shape to any extent until the medulla is reached, when a marked change takes place. The cord suddenly commences to enlarge in all directions, but the enlargement is gradual and ascending. The anterior, lateral, and posterior columns enlarge and bulge, forming pyramidal masses and known as the pyramids of the medulla, the anterior columns of the cord becoming the anterior pyramids of the medulla, the lateral the lateral pyramids, and the posterior external column and posterior median columns are represented at the posterior or dorsal aspect of the cord as the fasciculus cuneatus and fasciculus gracilis. These two columns, together with a third, compose the posterior pyramids of the medulla. The posterior external columns of the medulla enlarge and project by their posterior free margins over the posterior median columns and finally merge into two large rounded processes known as the restiform bodies. On the back of the lower portion of the medulla the posterior median columns commence to diverge from each other and upon them are superimposed the restiform bodies just mentioned. As the posterior mediam columns and the superimposed restiforms diverge, they open up the central canal of the cord, which has now almost reached the surface behind. As the columns behind diverge and the gray matter of the central canal is thus more and more exposed it becomes flattened out on the back part of the medulla and forms the lower portion of the floor of the fourth ventricle. The spinal cord, which, when the human subject is erect is practically vertical in direction, as soon as it enters the skull and becomes the medulla, tips forward, so that its anterior pyramids rest upon the basilar process of the occipital bone in front of the foramen magnum, thus giving the opened-up back of the medulla or floor of the fourth ventricle a position in a plane neither vertical nor horizontal but gently sloping upward and forward. The gray matter of the lower half of the fourth ventricle is, then, the expanded or flattened out gray matter, continued from the central canal, which rests upon the dorsal aspect of the medulla. The upper half of the floor is the same gray matter which rests on the dorsal surface of the pons and is directly continuous with the lower half.

The cerebellum is connected with the spinal cord by the restiform bodies diverging upward from the back of the medulla and we call the restiform bodies the inferior peduncles of the cerebellum.. The cerebellum is then again connected with the pons, and the transverse fibres of the pons make themselves into two thick bundles of fibres, one on each side going to the corresponding hemisphere of the cerebellum; these are called the middle peduncles of the cerebellum, but these do not have anything to do with the boundaries of the ventricle. Now, the cerebellum has again two more peduncles or cord-like bundles of fibres connecting the cerebellum with the cerebrum above. These are known as the superior peduncles of the cerebellum or the processi e cerebello ad testes, because they seem to end in the two hinder bodies of the corpora quadrigemina known as the testes. As a matter of fact they do not terminate in the testes but go up under these bodies to the cerebrum. As these two cord-like superior peduncles leave the cerebellum, they, in their upward course, resting upon the back of the pons, converge toward each other. You can see, then, that the fourth ventricle is now bounded on all sides but the roof. Let me repeat: The floor is simply the opened up and expanded central canal of the cord, consisting of gray matter and resting upon the back of the medulla and pons Varolii and gently sloping upward as it is directed forward. Its lateral boundaries below are formed by the restiform bodies and posterior pyramids of the medulla; then the upper lateral boundaries are the superior peduncles of the cerebellum as they commence and continue to converge. The diverging lateral walls below and the converging lateral walls above give to the floor the shape of a diamond, or the shape of a space inclosed by two V's, drawn with their bases opposed, the upper V being upside down. This shape is called lozenge-shaped because the heraldic device of that name had that shape. The lower end of the ventricle would be pointed as also would the upper end. The upper pointed end marks the commencement of what is known as the "aqueduct of Sylvius" or the iter e tertio ad quartum ventriculum, which is a canal connecting the fourth ventricle with the third above. This canal is large enough to admit a probe. It runs upward and forward under the corpora quadrigemina. In its walls is a large amount of gray matter, in which are the nuclei or origins of the third, fourth and the upper part of the fifth cranial nerves. The lower pointed end of the fourth ventricle is marked by a small opening—the end of the central canal of the cord. Now, before we roof in the fourth ventricle let us see what we have in the floor to aid us in considering its physiology. This diamond, or lozenge-shaped floor is marked by a median groove. This median groove and the lower diverging lateral walls give to the lower portion of the floor the appearance of a writing pen and this fancied resemblance led the older anatomists to call it the calamus scriptorius. About the middle of the floor, at its widest part, a few transverse bands cross and are called the striæ acusticæ, because they join the roots of the auditory nerve. On either side of the median groove is a rounded eminence extending the entire length and known as the fasciculus teretes, and this being pointed below leaves a triangular depression on the floor, just outside. This space on either side is the fovea inferior. Thinking that by this time you are sufficiently wearied I will roof in this cavity and get to the meat of the subject, namely, its physiology. The triangular space made by the converging superior peduncles is roofed in by a thin lamina of white or gray matter extending from one peduncle to the other. This is known as the valve of Vieussens or the superior medullary velum. I might further describe this but suffice it to say that it forms the roof of the upper portion of the ventricle and even extends up into the iter. Back of this, the ventricle is covered in by the central under surface of the cerebellum—the inferior vermiform process (one of the cerebellar lobes) and the amygdalæ or tonsils, so-called, portions of the cerebellum. The arachnoid membrane coming down behind the cerebellum is not reflected into the ventricle but is thrown across the chink between the cerebellum and the posterior diverging pyramids and thus closes in the extreme lower and back end of the ventricle. There is a small opening into the ventricle, however, through this membrane, communicating with the subarachnoid spaces, as mentioned earlier in my paper. This is known as the foramen of Magendie. The roof made up in this way of the valve of Vieussens and the cerebellum is, when viewed from the floor, tent-like in shape. All of the cranial nerves from the fifth to the twelfth inclusive find their deep origins in the floor of the fourth ventricle. There are little deposits or elevations called nuclei. I might give the anatomical sites of each of these nuclei, but my paper has already grown too long. They follow in position their numerical order from above downward.

Having, in a lumbering way, given you the anatomy of the ventricle, I will endeavor to give you, as concisely as possible, the physiology. Whatever the functions belonging to the cranial nerves with the exception of the four first, that function belongs to their nuclei in the floor of the fourth ventricle. The functions of the medulla are inseparable from the functions of the ventricle, because the centres are in the floor of the gray matter forming it, with one or two exceptions. It has been proved repeatedly, by experiments on the lower animals, that the entire brain may be gradually cut away in successive portions yet life may continue for a considerable time, the respiratory movements being uninterrupted. Life may also continue when the spinal cord is cut away in successive portions, from below upward, as high as the point of origin of the phrenic nerve; and, although this nerve arises from cervical nerves, the deep origin of these nerve fibres is thought to be in the ventricular gray substance of the medulla. In amphibia, the brain has been all removed from above, and the cord, as far as the medulla, from below, and so long as this remains intact, respiration and life are maintained. But, if in any animal the medulla is wounded, especially in the floor of the fourth ventricle opposite the nucleus of the pneumogastric, the respiratory movements cease and the animal dies, asphyxiated; and this effect ensues even when all parts of the nervous system, except the medulla, are left intact. Fractures of the upper cervical vertebra are often followed by instantaneous death, by wounding the deep origin of the phrenic nerve in the medulla or wounding the pneumogastric at its commencement. Mastication is a reflex act, and all the nerves concerned originate in the floor of the fourth. The reflex is excited by the sensory branches of the fifth and tenth and the motor impulse starts in the motor root of the fifth and twelfth.

In deglutition, the central nervous mechanism is in the floor of the fourth. The nerves engaged in the reflex act of degultition are sensory branches of the fifth supplying the soft palate; glosso-pharyngeal supplying tongue and pharynx; the superior laryngeal (vagus) supplying the epiglottis and glottis while the motor fibres are branches of the fifth, supplying part of the digastric and mylo-hyoid muscle; the facial supplying the levator palati; the glosso-pharyngeal supplying muscles of the pharynx; the vagus supplying muscles of the larynx, through the inferior laryngeal branch and the hypoglossal supplying the tongue. The nerve centre by which these muscles are harmonized is situated in the medulla oblongata.

Without going into the minutiæ of these complex reflex acts, let me say that the act of sucking is of ventricular origin; and also the secretion of saliva. Centres for vomiting, centres for coughing, centres for sneezing, bilateral centres for the dilatation of the pupil, the fibres from which pass out into the cervical sympathetic, are here. Respiration, when it is carried on involuntary, is through the vagus. It probably consists of an inspiratory part and an expiratory part. The vagus stimulates and one of its branches, superior laryngeal, inhibits. Circulation is carried on by the intrinsic motor ganglia of the heart and by the cardiac plexus composed in part of pneumogastric fibres. The vagus also inhibits and thereby maintains the proper rythm of the heart. In locating all of these centres, we cannot find them for demonstration anatomically, except the nuclei of the cranial nerves. They have been proven to reside somewhere in the medulla and the inference is just that, except in rare instances, they are within that stratum of gray matter composing the floor of the fourth ventricle. Vaso-motor centres, which control the unstriped muscle of the arteries are also situated in the medulla. Vaso-moter dilator centre. A diabetic centre is located in the floor of the fourth ventricle and is probably a part of the vaso-motor centre. Stimulation of it by irritation causes dilation of the vessels of the liver and excretion of sugar. Sweating is a reflex condition and its centre is located here. It should not be forgotten that in the medulla are the centres for the special senses, hearing and taste, and that other special centres are supposed to be located there as the inhibitory heat centre. The diversity of acts and functions involved in the consideration of the cranial nerves would take pages to relate, so I will beg of you to use your imagination and try to comprehend what I have failed to bring out, namely, how wonderfully vital is that little bulb known as the medulla and especially in the floor of that little diamond-shaped box, the fourth ventricle.

Thanking you for your kind attention and hoping you will deal kindly with me in the discussion, because I have told you almost all that I know and perhaps more in some instances, I will close.

A CASE OF LONG-STANDING ENURESIS AND TREATMENT.

By G. L. CORNELL, M. D., Detroit, Michigan.

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The following case of enuresis which occurred in my practice may prove interesting to the readers of The Physician and Surgeon.

Miss McC, aged twenty-three years, occupation a clerk, applied to me for treatment October 6, 1895. The only history I could obtain was that when between two and three years old she had an attack of scarlet fever, since which time she has suffered from enuresis, rarely escaping a night. Being a very sound sleeper she would not awaken until morning and then to find the bedding saturated, notwithstanding the fact that she constantly used a folded sheet to sleep on. During the day she had no difficulty whatever in controlling the bladder, often going the entire day without urinating. Her general appearance showed her to be rather thin and quite nervous, but enjoying her usual health.

An examination proving negative as regards anything abnormal, I placed her upon the following treatment with a view of stimulating the vesical nerve supply by which the sphincter would be controlled at night as well as during the day. Internally sulphate of strychnine was employed in doses of one sixty-fourth grain three times daily, and applications of electricity were made to the hypogastrium three times a week, and by means of a female catheter the faradism was applied through the other pole directly to the neck of the bladder. This treatment was beneficial and with the advent of warm weather last spring the improvement was quite rapid.

During the past summer I lost track of the patient, she having removed to Canada. However, I heard from her recently, to the effect that she had had only two or three "wet" periods during the entire summer and consequently had stopped all treatment. Fearing a possible return of the trouble with the onset of cold weather I ordered again the strychnine tablets and advised her in case it did return, to consult a physician for the use of the faradic current, as I am confident that a cure will result.

My object in reporting this case, inasmuch as the text-books seem to ignore any special reference to the treatment of enuresis in those who have passed puberty, is to show how such a long-standing and filthy affliction was brought under control by such simple methods.

FRACTURE OF THE PELVIS; ACUTE MYELITIS.*

BY P. S. ROOT, M. D., MONROE, MICHIGAN.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

I HAVE thought to interest the members of this society by the presentation of two rather unusual cases; one surgical and the other medical. One will serve to exemplify the curious in surgery; the other the uncertainty of the element of prognosis.

Case I—Fracture of the Pelvis.—G. S., aged nineteen years, of athletic build and very healthy parentage, on the 9th day of October, 1895, while sprinting with a companion, felt something suddenly give way in his left hip. He fell to the ground and was assisted to his home where I saw him a few minutes afterward. An examination demonstrated that he had fractured the pelvis. The location of the fracture was at the anterior inferior spinous process of the ilium. As you are aware, the straight tendon of the rectus femoris muscle has its origin at this process. This muscle is one of the four which form the quadriceps extensor which has its attachment on the tibia. It was, then, the physiological action of this muscle that produced a fracture of this process. The piece of bone separated was about two inches long by one inch in depth.

As to the matter of treatment, two courses presented themselves; one to cut down and wire the separated fragment to the body of the ilium; the other to attempt reposition by muscular relaxation. I found by flexing the knee and thigh the fragment could be quite perfectly replaced. I therefore placed the leg upon a double inclined plane, which afforded considerable relief to the patient. The young gentleman had just received an appointment to West Point and his father was extremely desirous that a perfect result be had; hence on the following day the case was seen by DOCTORS H. O. WALKER, of Detroit, and C. T. SOUTHWORTH, of this city. These gentlemen concurred in my diagnosis and treatment, but for greater comfort to the patient a long splint, with a double incline and a foot rest was advised. However, for the most perfect relaxation of the quadriceps extensor I think a triangular splint, perpendicular at foot and apex at gluteal region, would better fulfill the indication. It is possible such a splint would be somewhat tiresome. The splint we had constructed permitted of some up and down movement of the foot, which was greatly appreciated by the patient. The leg and thigh were protected by cotton and confined to splint by roller bandage. The limb was maintained in this position for nearly five weeks, when, upon removal of the splint, thè union of the fracture was found to be quite firm and the patient able to walk with a slight limp.

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*Read before the MONROE COUNTY (Michigan) MEDICAL SOCIETY.

The details of this case have been given because of the rarity of such fractures, when produced by muscular action. **Hamilton** reports one case in a man of seventy years who fractured the ilium while getting up from his seat in a street car. **Ashhurst** reports this case from **Hamilton**. No other cases are reported by such surgical authorities as I possess. Of course, fractures of the pelvis are common as a result of falls or mechanical injuries.

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Case II—Acute Myelitis.—S. M., aged sixty-nine years, of Jewish nationality, well nourished and without history of any severe previous illness. I was asked to see the patient October 17, 1895, and found him suffering with severe cystitis and complaining of painful sensations in the feet and spine. Temperature, 100°; pulse, 96. The cystitis appeared to have been the result, or an extension of urethral inflammation contracted some months previously. An examination of the urine showed it to be of acid reaction, pus and albumin constituting about one half the volume. Filtration and an examination for albumin showed about ten per cent. indicating the involvement of the kidneys in the inflammatory action. The microscope revealed pus, bladder and renal epithelia in abundance, also some casts.

We had, then, cystitis, with also a pyelo-nephritis from contiguity. I would call attention here to the acid reaction of the urine. Such reaction is found in pyelitis involving one kidney, but not in cystitis. Cystitis, especially if chronic, gives us ammoniacal urine or a urine of alkaline reaction. It must also be remembered that suppurative cystitis is liable to result in pyelitis by the simple process of extension. I cannot speak as to the nature of the primal inflmmation of the urethra, whether it was specific or simple. We will now revert to the nervous symptoms. The tenderness over the spine was accompanied by a band-like restriction around the chest and marked formication and tingling of the feet. These last symptoms occasioned the patient so much suffering that the frequent hypodermic administration of morphine was necessary. Hot water applied to the dorsal region of the spine produced intense pain, but below this point very little sensation was manifest. In about four days the formication and tingling gave place to paraplegia with anesthesia. Restlessness continued to be a marked feature. There were no special bladder or rectal symptoms, except constipation and some incontinence of urine. Temperature now ranged from 100° to 103°; pulse from 75 to 90. About this time he began to complain of numbness of both hands, with tingling and an extention upward of the soreness over the spine. With the advent of these new symptoms the respiration became hurried—36 to 40—pulse, 120 and upward. The band-like sensation completely encircled the chest and was a source of great distress. There were indications of the formation of bedsores but by great care and the use of air cushions this complication was avoided. The patient could move his hands but otherwise he was absolutely helpless. He took nourishment in liberal amounts but notwithstanding appeared to be failing. The exhibition of morphia was necessary in order to procure any sleep whatever. At this time, October 21, 1895, the case was seen in consultation by **Doctors Heath** and **Masecar**, who concurred in the diagnosis. Our prognosis was that he would live but a few days at most. He, however, continued in about the same condition, and on November 5, **Doctor David Inglis**, of Detroit, was called in council. He agreed perfectly both with our diagnosis and our prognosis; still the man lived on. His legs became edematous and his muscles underwent rapid atrophy. His hands were useless though they could be moved.

As to the matter of etiology, it may be said that the most common causes of myelitis are injuries, exposure, syphilis and diseases of the vertebræ. In the case under consideration I do not believe that any of these factors had a causative relation. I look upon this manifestation of disease to be the result of an infective process, which had its origin in the suppurative inflammation of the bladder and kidneys. Cases of myelitis due to septic infection are rare and by some are said not to exist at all. We have. however, the authority of **Sir William Gull** in confirmation of such possibility. He reports several cases as being due to gonorrheal infection—the infection either being specific or purulent. He reasons that such infection may produce diseases in the spinal cord after the manner in which joints are involved. **Dickinson** writes: "Myelitis after gonorrhea is a sequence which may be considered to be beyond doubt; and it is at least probable that a similar result may now and then ensue after other kinds of suppurative diseases." The more recent advance in our knowledge of septic diseases lends much support to this conclusion. In cases of this origin the prognosis is far better. As a rule the chances of recovery are very poor, nearly all cases dying within a few weeks, or months, at most. I recall a patient under my observation at the Monroe County Poor House, who was sent there with the diagnosis of locomotor ataxia. This man had acute myelitis and died in four weeks. I found retention of the urine to the amount of eight quarts. He had paraplegia, which condition was followed by bedsores in three to four days. In this case the disease was supposed to have been caused by exposure.

The diagnosis of myelitis as a rule does not offer much difficulty. The usual sudden onset of the paralysis, the absence of contractions, the disappearance of the reflexes, and the band-like constriction are usually sufficient to make the diagnosis. We may also have incontinence of urine and feces, and bedsores are quite likely to occur. We may not, at all times, find this complete array of symptoms. The location of the disease and its extent will often vary the symptomatic manifestations; but, gentlemen, it is the unexpected which is likely to occur. Our patient has practically recovered, and has kindly consented to present himself for our inspection. He is not perfectly well, and yet I think you will agree with me that he is a pretty lively dead man. You will notice that the reflexes are absent and his gait is peculiar. His urine is free from pus and albumin, and there are no bladder symptoms. There is, however, yet considerable anesthesia of the extremities. These symptoms, he says, are gradually improving.

Speaking briefly as to the pathology of myelitis, if the cord be exposed, there may be found the results of inflammatory action, such as injected areas, alteration of the gray substance with more or less effusion. In some cases no change can be noticed microscopically; yet the microscope will probably never fail to show some lesions. The nerve tubes will be swolen, tortuous and broken; the axis cylinders will have their places taken by oil globules; pus corpuscles may or may not be seen. The fact that in many cases no lesion has been thought to have existed has given origin to a so-called reflex paraplegia, but year after year we find the functional diseases decreasing. Pathological researches are constantly bringing into view structural alterations. So, in myelitis, as in other spinal diseases, we shall find the results of pathologically morbid processes. If the alteration in the spinal cord has gone beyond a certain degree, we cannot reasonably expect regeneration and consequent restoration of functions. Still, there are those who believe that in lesions of some magnitude, involving the cord, recovery may occur with more or less perfect restoration. It will not, of course, be inferred that we consider that there is any direct communication between the spinal cord and this man's seat of suppurative disease. The irritation resulting in the spinal lesion may have been simply a metastasis, a chance bacterial infection; or, it may have been the manifestation of some poisonous toxin, in which case the medium by which the bacteria or toxin was conveyed could have hardly been other than the blood. There is, however, another possibility in the case, and that is the direct nervous influence of a disease in close proximity to the spinal cord. Physiological researches have domonstrated the possibility of inflammation being produced by constant or oft-repeated nervous shocks or irritation applied to the cord.

As to treatment, I may say that patient was given nearly all the remedies recommended for this disease. Early I ordered wet cups to the spine, and in due course he was given belladonna, ergot, bromide and iodide of potassium. I question the propriety of making strong counterirritation, or applying intense cold over the spine in myelitis. Every effort should be made to conserve the vitality of the skin where the tendency is so great to the formation of bedsores. After the active symptoms began to subside, strychnine and iron were given, and thorough rubbing of the extremities every day was ordered. As the improvement became more manifest, I used the faradic current with seemingly great benefit in restoring the atrophied muscles. The pyelitis was treated mainly by the balsamic preparations, sodium benzoate, tincture chloride of iron, pichi, et cetera. The one remedy which I found most efficient was the oil of sandal wood.

I would gladly have gone more into details save for the fear of becoming tiresome. I trust the discussion will bring out many points that I have omitted to mention.

OBESITY.*

BY A. C. LEE, M. D., DETROIT, MICHIGAN.

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FOR a definition it may be said that obesity is an excessive accumulation of fat in the adipose tissues of the body and its various organs, some of which are hindered in their function, due to the fact that this fat is not uniformly distributed, being excessive in some parts. Normally it constitutes about one-twentieth of the weight of the body.

The heart is the first and principal organ of the visceral cavity to suffer. The fat in this instance is deposited between the ventricles and around the origin of the larger blood-vessels. In the connective tissue of the left ventricle, in the latter stage of the affection, the muscular fibers are separated by this excessive deposit, interfering with the function, nutrition, and contractile movements of the organ, unfitting it for the extra labor thrown upon it, due to the pressure from external fat. The liver is often involved. The accumulation of adipose tissue in this case interferes chiefly with the function of the hepatic cells. The pancreas and spleen are seldom involved. In the female the uterus and its appendages are crowded into the pelvis.

The physiological store of fat is normally obtained from the fat that enters the circulation either in the form of an emulsion or derivative combination, such as glycero-phosphoric acid, fatty acids or soap. The fats held in solution by the soaps are formed in the small intestine by the action of fatty acids on alkaline bases. Glycerine and fatty acids are formed by the action of the pancreatic juice on fats, the glycerine enters into combination with the phosphoric acid that has been displaced by the hydrochloric acid of the gastric juice, and thus formed, the glycero-phosphoric acid and soap pass readily into the circulation, while the emulsified fats pass through the lacteals and thoracic duct into the general circulation.

BOUCHARD declares that in forty per cent. of the cases obesity is due to excess in eating and drinking; in thirty-seven per cent. to deficiency in exercise; in twenty per cent. to excess of exercise; and in ten per cent. to insufficiency of food. It may occur any time during life, and about twice as often in women as in men. Ancestry acts an important part. In one-half of the subjects of obesity the hereditary influence was very noticeable. Because of their occupation, sea-captains, policemen, coachmen and teamsters often afford excellent examples of obesity. Much of their time being spent out in the open air, their appetites are good, but their daily use of alcoholic stimulants, even in small quantities, interferes with oxidation and favors storage of fat in the body.

The objective symptom is the distribution (not always uniformly) of an excessive amount of adipose tissue. In adults of medium height who weigh from two hundred to two hundred and twenty-five pounds, a mild degree of the disease is indicated; a weight of from three hundred to three hundred and fifty pounds betokens a medium degree; and from four hundred to five hundred pounds denotes a very grave form. Even greater weights, ranging from seven hundred to one thousand pounds, have been recorded.

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* Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

The subjective symptoms involve a diminution of the sexual appetite and its eventual extinction. The function of the muscular apparatus, as a rule, is materially lessened. The same may be said of the brain. The movements of respiration and the heart are greatly impeded. The pulse is retarded in about one-third of the cases; in another third it is feeble and dicrotic. The urine contains oxalate of calcium. In about one-half of the cases the appetite is normal. In ten per cent. it is diminished. In some there is great hunger, the subject devouring enormous quantities of food.

The treatment of obesity for all time has been restriction of diet, with absolute refrain from starch and sugar, and to this day diet plays a *very* important part. It was used by HIPPOCRATES, and revived in our generation by MR. BANTING, and was called Bantingism, but too strict adherence to this rule will often bring upon the patient ill-health that is worse than the original disease. Renal calculi and gallstones are the most common disorders. Great care and judgment must be exercised lest the patient's stomach rebel which would necessitate going over the treatment from the beginning again, causing the patient to become discouraged, and much trouble for yourself. Denutrition of the body which follows "Bantingism" is physiologically unsafe. The alkaline and the acid cure have all had followers, but it is of no virtue save as it deranges the stomach.

BOUCHARD bases his treatment on the amount of nitrogenous excreta in the urine. When it is excessive the albuminous blood food should be reduced. Vegetable acids which favor rapid oxidation he supplies by the use of fruits and vegetables.

My personal experience in the treatment of obesity has been as follows: For breakfast the patient is allowed a cup of coffee without sugar, one piece stale bread toasted, a poached egg, or a small piece of lean beefsteak. For dinner I allow some meat soup, roast meat with gravy, or fish, peas, beans, cabbage, or in fact any vegetable that grows above the ground, and a cup of tea. The supper is made of a cup of tea without sugar, Vienna rolls, cold meat, cottage cheese, fruit. Beer and strong alcoholic beverages are forbidden, although in some cases light wines, diluted with alkaline mineral waters, are admissible. A variation of this menu must be made to suit each individual case. The main point I wish to bring out is not to try or expect to achieve too great a reduction of weight in too short a time. Medical treatment of this affliction to my cases were unsatisfactory. Phytoline, which you have all seen advertised in our medical journals, was tried and I believe did some good. One patient I had under observation took five bottles and certainly was relieved a great deal. Bladder wrack or fucus vesiculosis has been recommended in plethoric women suffering from menstrual derangement, menorrhagia, et cetera. In two cases which have come under my care it was of decided virtue. One, a woman forty-two years of age, whose weight at the beginning of treatment on July 10, 1896, was two hundred and forty pounds, reported to me today (three months later) that she felt better than she had in three years and had lost thirty-five pounds of flesh.

STRANGULATION WITHIN THE PELVIS.*

BY JAY L. McLAREN, M. D., SAGINAW, MICHIGAN.

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On April 27, at 8 o'clock, A. M., in answer to a telephone message, I called on MRS. L., aged thirty-six years, and found her in labor. With her first child, three years previous, labor was normal but long and tedious. Her health had been good up to the sixth month of the last pregnancy, since which time she has suffered with a severe vaginitis, due to a varicose condition of the pelvic veins, resulting from a previous laceration of the perineum. She had a few slight pains during the night but it was about 8 A. M. when they became regular about every ten minutes, increasing in severity with no interval of rest. This condition continued up to 10 A. M., when the child was born. Examination revealed a head presentation—occipito-right anterior position—and everything normal, except the amount of amniotic fluid which was unusually large and the membranes tough. When ruptured the fluid came with such force as to pass over the footboard. The head, which had been rather high in the pelves, suddenly came into the soft parts and with the third pain was expelled. The face, instead of turning from the median line to the left, and facing the mother's left thigh, turned in the opposite direction, making a complete revolution and facing the mother's left groin, the position corresponding to an occipito-right posterior which the shoulders and body following evidently took. The child did not manifest the slightest sign of life, death having occurred from strangulation within the pelvis, as I believe, by the twisting of the head upon the trunk.

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* Read before the SAGINAW COUNTY MEDICAL SOCIETY.

The patient being entirely uncovered, and a good light in the room, made it possible to observe every step in the delivery. I recall, with regret, four other similar cases in which I had never been able to explain the cause of death. In each instance there was an unusual amount of amniotic fluid with which I associated the cause of death, how, I was unable to explain. External rotation had not been observed.

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MODERN SURGERY VIEWED FROM THE STANDPOINT OF A LAYMAN.*

By MRS. A. W. BENNETT, BIG RAPIDS, MICHIGAN.

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IT has been an interesting and an edifying study to trace the growth of the art of surgery back to the old days when HIPPOCRATES raised the science of medicine from a system of superstitious rites—practiced solely by the priests—to the dignity of a learned profession.

We find that for a long time a fatal bar to the advancement of surgery was the world's ignorance of human anatomy—a natural consequence when superstition forbade the dissection of dead bodies; but the old battle between benighted prejudice and progressive thought had to be fought before crude theories gave place to more certain knowledge.

From that time down through the centuries, each period has marked some triumph of medical or surgical skill; or some discovery of importance has been given to the world, showing that the laws which regulate our physical nature are slowly and after the most profound research being understood.

More progress has been made since the year 1800 than during all the preceding centuries, and this has been largely due to work done in the dissecting room and in the laboratory.

It fell to the lot of America to make the greatest contribution to surgery that has ever been made by any nation of the world—the gift of anesthesia. We have not the time in this short paper to discuss the merits of the three men whose names are intimately associated with this great discovery, but to JACKSON, MORTON and WELLS the profession is indebted for this great boon to suffering humanity.

The successful application of anesthesia by the inhalation of ether was first demonstrated in Boston in 1846. A year later, SIR JAMES SIMPSON, of London, discovered in chloroform properties similar to those of sulphuric ether; but the conquest of pain had already been achieved. To our three Americans, especially to MORTON, is the whole credit due for the great thought of producing insensibility to suffering. It was he who made the experiments, he who dared

*Read before the BIG RAPIDS WOMAN'S CLUB.

to assume the risk of public failure, and not only the odium of defeat, but possible loss of life.

If the "spirit of progress blocks the wheels behind, to save us from going backward," there is a paltry conservatism which blocks them in front to hinder advance. Singular as it may seem, since the beginning of time, there have been few great discoveries made which have not, at first, met with incredulity and sometimes violent opposition. The fact that a thing is *new* seems enough to condemn it!

Instead of being hailed as a public benefactor, DOCTOR MORTON, after the announcement of his discovery found himself, for a time, the target for ridicule and contempt: and notwithstanding he had, in the presence of many spectators, demonstrated by a successful operation that a patient could be rendered insensible to pain, yet for several weeks afterward at the hospitals they would not allow the ether to be administered, and surgery and agony still went hand in hand. Pilloried in the newspapers as a charlatan and a fraud, snubbed, even persecuted by the medical fraternity, he reaped but a poor harvest for his labors and his sacrifices!

It is difficult to appreciate our blessings without taking as a standpoint a period when they were not enjoyed. Events with which we become familiar, cease, after a time, to excite wonder and admiration; and when the mind becomes accustomed to extraordinary acquisitions, they seem to have come as a matter of course. If we go back to the time when severe, tedious surgical operations were performed without anesthetics, recalling the prolonged misery of the sufferer, held down by powerful assistants or confined by straps to the operating table, one can form an adequate estimate of this precious discovery. A like operation today is done without pain or excitement, the patient falling easily and quickly into a quiet sleep, and awakening to find, to his astonishment, that all is over.

This contrast might also be extended to cases of severe and protracted confinement and to many diseases characterized by intense suffering. There were fifty to seventy-five per cent. of chances of death in the old way; for the shock and exhaustion caused by physical anguish did much toward an unfavorable termination after surgical operations. Said PROFESSOR WHITE: "Since anesthesia was discovered the advance in medical and surgical knowledge has prevented an amount of human suffering, in comparison with which the tortures of a thousand inquisitions dwindle, and has added to the sum of human life more than enough years to outweigh the deaths in all the wars that blot the pages of history."

Another great event in the annals of surgery less than a quarter of a century ago was the introduction of antiseptics. It was found that the fatal diseases following wounds, whether made by broken bones, bullets or by the surgeon's knife, are due to the entrance of little microörganisms which at once begin to grow and multiply and destroy the tissues round about them. By the action of these organisms new substances are found in the wound, sometimes as poisonous and deadly, when taken up into the blood, as an overdose of strychnia or prussic acid.

These minute bodies are quickly killed when brought into contact with certain antiseptic or germ-killing chemicals. So the surgeon of today thoroughly cleanses his hands, instruments, the surface of his patient's skin, and the wound itself, with one of these agents, and either by heat or chemicals destroys the "bacteria" that may be in the dressing with which he covers the wound. Thus he makes ready for the operation, and he may confidently expect quick healing and prompt recovery with little of the danger or the slow, exhausting suffering that used to follow even his most skillful work.

The credit of this discovery belongs to no one nation exclusively. In France, PASTEUR found that putrefaction was due to the presence of microörganisms. In Scotland, LISTER made the application of this science to surgery, and to him is due the immortal praise. In Germany and throughout the European continent and in America, the further application and the perfection in the technique was made. To England belongs the doubtful distinction of harboring the last remnants of prejudice and opposition to the antiseptic theory.

Thus the whole science of surgery has been twice revolutionized within the last half century. The discovery of anesthetics fifty years ago more than doubled the surgeon's power; the general introduction of antiseptic agents broadened his field in almost as great a proportion. All the wonderful progress in the art has been based upon these two discoveries.

The early years of this century gave little promise of the new era that has dawned upon the profession. The surgeon of 1800 had little more knowledge than had HIPPOCRATES of the chief cause of danger after operation, such as suppuration, blood-poisoning, hospital gangrene, et cetera, though he groped wildly for a solution of the mystery. He had no clinical thermometer and could only guess at temperature and fever. He had not even conceived of a hypodermic syringe, a laryngoscope or an ophthalmoscope and knew nothing of plastic surgery, nor the use of the microscope in diagnosis. He knew nothing of the importance of blood saving, and had only just learned how to ligate arteries and to treat ordinary wounds in a simple, sensible way. Erysipelas was the order of the day, and after amputations death followed,—death with terrible inevitableness. Only the really *great* surgeon could perform successfully the operations of ligature of large arteries, removal of tumors, Cesarean section, amputation and the like; but such men were few and far between.

An injury which involved puncture of an intestine used to be regarded as necessarily fatal. Now the surgeon who undertakes the treatment of such a case does so with every hope of success. In no branch of surgery has the introduction of antiseptics had such an important effect as in operations upon the internal organs.

Among the many improvements of this age are: Amputations at the hip and shoulder-joints, the diagnosis and treatment of cancers and malignant tumors, surgery of the cranial cavity and of the other great cavities of the body, surgery of the nerves and of the vascular system, the development of new bone, operations for the removal of the appendix vermiformis, of diseased ovaries and diseased lung tissue, excision of the tonsils and of sections of the intestines, and the removal of diseased ribs, et cetera.

In fact there remains but a single organ in the whole body which the surgeon of today dares not invade. The heart itself is all that he has not touched. It is asserted, however, that one bold operator succeeded in restoring life to an apparently dead man by piercing the still heart with a fine needle and starting it into action by a shock of electricity.

The operation of intubation, consisting of introducing a tube through the mouth into the larynx for the relief of patients suffering from diphtheria and croup, reflects great credit upon American surgery. In plastic surgery, also, our countrymen have been especially successful. The formation of a nose from the forehead or the phalanx, the building of a lip from the arm, straightening of "cross-eyes," due to an unequal tension of their muscles, uniting the fissure in "harelip," in fact all kinds of facial remodelling are today, in this country, an actuality.

Only think of it! If a man has fallen under the disfavor of Mother Nature and possesses a nose too large to suit his notions of beauty, it can be changed into one of perfect size and shape by cutting away the excess of bone, reknitting and causing the flesh to reunite without a scar—a miracle of modern surgery, but a miracle constantly repeated. If his ears are not small enough, or if they stand out with an air of exaggerated alertness, there is an operation, simple and sure, to remedy that defect. An injection of cocaine, a gentle clipping away of superfluous cartilage and tissues, an excision of the skin at the base of the ears and the sides of the head opposite, a few stitches uniting the raw portions, and the result is a pair of very "classic" organs of hearing. If the individual under consideration has protruding or receding teeth, they can be easily coaxed into their proper places—an ordinary thing in surgical dentistry. If wrinkles, moles, small-pox-pittings or similar facial blemishes are making his life a burden, they can be painlessly and permanently banished to the limbo of forgotten miseries. A process of skin grafting, if he has lost his hair, will restore this to him in any color he may desire. Shades of Adonis! Who need sigh in vain for beauty now?

As for dental surgery, the inhalation of laughing gas, ether or chloroform, as we all know, has rendered painless the extraction of teeth. But we have never endured the torture, the *martyrdom* of having a sensitive tooth excavated without a feeling of indignation and resentment that dentistry had so failed to keep pace with the times in allowing all this misery to exist. But a very large silver lining has appeared upon even *this* cloud. We find that for about four months in the eastern cities a new method called "cataphoresis" has been successfully employed, and the result is total obliteration of sensation during the drilling and filling of the teeth.

We will not venture into the deep water of technical terms in describing this process. It seems a very simple one. A proper medicament, usually oil of cassia incorporated with soda sulphate, is placed in the tooth cavity, and an electric current by a continuous, smooth voltage, imperceptible to sensitive nerves, diffuses this through the tooth tissue, giving the patient complete immunity from pain during the process of excavating the teeth. So, even the dentist's chair is to be deprived of all its terrors. Really it would seem that the millennium is at hand.

But the achievements of modern surgery are too many even to classify in a sketch as brief as this. Not only is life saved, which under old conditions would have been lost, but ills, which formerly were treated by slow and imperfect processes of medication, are now overcome by the quick and sure skill of the operator, and any condition, no matter how deep-seated, which the knife can improve, is confidently dealt with. And who can compute the sum of human misery which has been subdued?

It is something to have witnessed one of the epochs in the world's progressive evolution! The wonderful discovery of ROENTGEN has undoubtedly given to medicine and surgery the most valuable factor in diagnosis the years have ever witnessed. Its immense importance to surgery can not yet be measured or its utility be even prophesied; for the "ROENTGEN rays" and their marvelous practical possibilities are still in their infancy. This much we do know: the eye of the physician or surgeon will be supplemented by a camera, making all the parts of the human body as visible, in a way, as the exterior. Already in the few weeks since ROENTGEN'S discovery, the results of surgical operations, under the new treatment, are such as to foretell, though vaguely, the future of this great thing.

In London a wounded sailor, completely paralyzed, whose injury was a mystery, has been saved by the photographing of an object imbedded in the spine, which upon extraction proved to be a small knifeblade. Operations for malformations, hitherto obscure, but now clearly revealed by the new light, are already becoming common, and are being reported from all directions. Not only all kinds of fractures and dislocations, but diseases of the bones are photographed; and imbedded bullets, instead of being probed for in the old, uncertain way, are brought to light by these strange "rays" and extracted with comparative ease. How the terrible mortality record of the army hospitals, during the civil war, would have been lessened, could surgery have known what it does today!

This is not an enlightened age, but an age *becoming* enlightened. The eye of medical science is marvelously quick to see her most insidious foes, and the span of human life is perceptibly broadening.

We firmly believe that the next half century will witness an equal or greater advance, and that the surgeon of 1950 will look back upon many of our methods as we do upon those of the eastern magicians or the medical astrologers.

THE TREATMENT OF DIPHTHERIA.*

By WILLIAM C. STEVENS, M. D., Detroit, Michigan.

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Those of us who have been students of medicine for the past quarter of a century have watched with varying interest the changes in opinion of the pathology and treatment of diphtheria and croup. As we have stood by the sick bed of our own loved ones and the loved ones of others and watched the spark of life leave the tenement of clay, how we have wished for some remedy to arrest the formation of the septic process and the ravage of its products. We knew just what was required and when it was required, but we were ignorant of its existence. With what keen interest we watched Klebs and Loeffler in their experiments for the cause of diphtheria, and Roux, who set both of them on their feet by proving the importance of their discoveries and that the bacillus of Klebs was the cause of diphtheria.

Two years have scarce elapsed since Behring's treatment for diphtheria was presented to the medical profession by Doctor Roux, at Budapest. Since that time evidence for and against its value has accumulated sufficient to bewilder the most careful student. On one side we have such men as Doctor Winter, of New York, attending physician to the Willard Parker Hospital, who cannot find words too severe in which to condemn its use, and who is accused by his colleague, Doctor Brannan, of extreme prejudice in the following language: "As long ago as December, 1894, it was evident to the other members of the board [board of physicians to Willard Parker Hospital] that he had strong doubts of the curative power of antitoxin, and was prepared to find it of no value. The systematic use of antitoxin was begun on January 1, of the following year, and from the very beginning he had no faith in its virtues, and was daily proving to himself that he was right in his opinions. * * * After barely three months of observation on some one hundred and fifty hospital cases, Doctor Winter has decided for all time that antitoxin was absolutely without value, and in addition produced great harm even to the extent of causing death in those to whom it was given."

On the other hand we have the oversanguine physician who is carried away with every new discovery, and who sees nothing in it but the greatest possible good. It is not necessary for me to call to your mind alleged discoveries which have been foisted upon us by men of this character high in the confidence of the profession. All of us have buried away in our memories many a blasted hope excited by *scientific* men of this description. This state of affairs is indeed unfortunate. What is the conscientious physician to do? But few of us will live long enough to accumulate sufficient cases of our own upon which to base scientific conclusions. The only answer to this question, it seems to me, lays in the hands of each community of physicians. Each to carefully investigate for himself and bring the result of his observations to his society, and by comparative study lay the basis of a proper estimate of its value. This is my motive for bringing this subject to your attention.

In estimating the value of any treatment there are many factors to be considered. The diagnosis must be correct. The age of the patient must be known. The country where the epidemic occurred, and the character of the epidemic considered must be definitely stated. The time the treatment was commenced, and the hygienic surroundings of the patient must be known. We cannot compare the death-rate under antitoxin treatment with that under other methods of treatment previous to the discovery of the Klebs–Loeffler bacillus or where bacterial methods of diagnosis are not used. Comparisons of this nature would be manifestly unfair because we would be comparing death-rates where bacteriological methods are used with those where this method was not, which would include many cases of false diphtheria. For example, take the experience of Detroit. During the year ending June 30, 1896, three hundred and fifty-four cases were reported to the bacteriologist of the health department. Of these one hundred and thirty-six were found to be suffering from true diphtheria, one hundred and sixty-two from "false" diphtheria, and in fifty-six cases the results were indecisive. The indecisive results were due to various causes, such as spoiled culture medium, breakage, faulty inoculation, et cetera. It is proper for me to state that we are encouraged to send specimens of all suspicious cases for examination and not assume any responsibility in the matter. Doubtless some physicians do so, while others will wait to form their own opinions. This will explain the great number of cases of false diphtheria reported. In compiling our statistics we must know the age of the patient. Nor can we compare the death-rate of one country with that of another, for the death-rate is always higher in some countries than in others. We cannot compare one epidemic with another for you know that in some epidemics the majority recover, while in others, do what we can, the greater number will perish. The time the treatment is commenced is an important factor in success or failure, both with antitoxin or other methods. Therefore we must commence the study unprejudiced, with a full knowledge of all these factors before us, and a determination to reach a decision based upon the evidence.

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*Read before the Washtenaw County (Ann Arbor) Medical Society.

Long before antitoxin became an article of commerce, several Detroit physicians agreed to try it as soon as we could secure it, and as there were only a few cases of diphtheria in the city, to visit each other's patients and thereby learn to use it. As soon as we could secure it from New York we commenced our observations. This paper is the result of that work, and is a fair representation of my experience.

Case I.—EMMA, aged nine years, the child of a clerk residing in the suburbs. Her hygienic surroundings were good. After examining the case I diagnosed diphtheria. A bacteriological examination revealed the KLEBS–LOEFFLER bacillus in large numbers. The clinical diagnosis was made at 6 P. M. and confirmed at 2 P. M. the following day. One thousand units of antitoxin were administered at 6 P. M., at which time the membrane extended over both tonsils. The temperature before treatment was 103°; pulse 120. On the second day, eighteen hours after the injection, the temperature was 101 2–5°; pulse 120. There was no change in the false membrane. On the third day the temperature was 100 2–5°; pulse 98. Throat not clean but improving. On the fourth day, at 11 A. M., the temperature registered 99°; the pulse 90. Throat clean. At 10 o'clock A. M., of the fifth day, the temperature was 99.2°; pulse 99. On the sixth day, at 10:30 A. M., the temperature remained at 99.2°; the pulse-rate had decreased to 90 and was somewhat irregular. Throat clean.

Treatment.—On the first day I ordered the sulphate of quinine and the tincture of the chloride of iron. For local application I prescribed a mixture containing equal parts of the solution of subsulphate of iron and glycerine. This was applied to the false membrane. This treatment was continued until the fifth day when it was discontinued, and an elixir of the phosphates of iron, quinine and strychnine ordered, in full doses. The injection produced no discomfort, though an erythematous redness over the site of the injection alarmed the parents.

What are the practical deductions? A marked fall in temperature without any corresponding improvement of the throat. Depression not in proportion to the local sepsis. This is one of those cases in which we would expect heart failure. The child lay listless upon the bed, making no complaint and refusing all food. The pulse was thready and irregular and the prostration profound, rendering the prognosis very grave. And yet, as noticed, the convalescence was rapid and the child was well on the seventh day.

Case II.—ELSIE, aged seven years, residing in the city. Hygienic surroundings good. Clinical diagnosis made at 7 P. M. Bacteriological diagnosis made at 12 M. the following day, the culture showing the KLEBS–LOEFFLER bacillus. Pulse, before treatment, 112; temperature 102°. I injected one thousand units of antitoxin thirty-six hours after the first symptoms were noticed, at which time the tonsils and uvula were covered with the false membrane. Condition of patient eighteen hours after injection: pulse 106; temperature 101°. On the second day the pulse had decreased to 95; temperature to 99 2-5°. Throat clearing up. On the third day the pulse was 84; temperature normal. Throat clean. This condition still prevailed on the fourth day and the only other treatment employed was tonics.

Case III.—**Arnold**, aged ten and one-half years; residence, city. Hygienic surroundings good. Diagnosis confirmed eighteen hours after first visit. Antitoxin (one thousand units) was administered at once—or about forty hours after the first symptoms were noticed by parents. The membrane covered both tonsils and posterior pharynx. Before administering antitoxin the temperature was 101 2-5°; pulse 112. The following day (third day) the pulse was 100; temperature 101 4-5°. Posterior pharynx clean. On the fourth day the pulse was 95; temperature 100°. On the fifth day the throat was clean and remained so. Pulse 76, temperature normal, which latter condition continued to obtain. On the sixth and seventh days the pulse-rate was 78 and 84 respectively. No local trouble from injection. The general treatment differed very little from that of the former case. The rapidity with which the throat cleared was unusual.

Case IV.—One of the most marked cases I have treated was that of Mr. B.'s child, a boy of six years, residing on Eighteenth street. I was called to see this case in the evening and found that patient had been suffering with a high fever for about ten hours. Pulse 160; temperature 103°. Tonsils, uvula, and roof of mouth covered with false membrane. The case seemed to be one of unusual malignancy. I telephoned for culture medium and antitoxin, and without waiting for a bacteriological diagnosis injected one thousand units that night. On the second day the temperature was 100°; pulse 125. The patient was very much prostrated and had no appetite. The throat had nearly cleared, and there had been so much improvement that I felt I had made a mistake in diagnosis and needlessly alarmed the patient. However, the report came as a pure culture of the **Klebs-Loeffler** bacillus. On the third day the temperature registered 99°; pulse 90. "The patient slept well last night and has a good appetite," wrote the nurse in the records. On the fourth day the temperature and pulse were normal. On the fifth day the patient was well and dressed.

This case is remarkable in many particulars—(1) Its sudden onset, the child having been stricken down without warning. (2) The extent of membrane growing within such a short period—not more than four or five hours. (3) The high temperature and pulse-rate. (4) Its rapid recovery.

After twenty years of work in Detroit, where diphtheria can always be found, I have never seen a more unpromising case.

Cases V to VIII.—The next four cases are more interesting. I did not see the first case till the fourth day after the child was known to be ill. The throat and mouth was full of membrane of a most putrid and sickening character. The patient was a strong boy of twelve years. Hygienic surroundings bad. Temperature 104°; pulse 120, and feeble. The patient would not eat except as forced. I gave at once fifteen hundred units of antitoxin and ordered the throat gargled with the peroxide of hydrogen. On the second day the temperature had decreased to 101°; pulse 105. The patient drunk some soup and milk. There was no evidence that the false membrane was spreading. On the third day the temperature registered 100°; pulse 100. The mouth and uvula commenced to clean.

This was one of those cases in which we would expect heart failure. The pulse was thready and hardly preceptible at the wrist. During the first three days the old method of treatment had been followed and the disease had progressed with its usual course, the membrane spreading and the temperature remaining high with a rapid and thready pulse. But the antitoxin seemed to change all this, and the disease seemed to be arrested. The throat did not completely clear for eight or nine days.

On the third day of my attendance a sister—twin—was taken with a high fever—temperature 103½°; pulse 112. The throat was swollen and well-marked patches had developed on the tonsils and pharynx. The glands of the neck were swollen, hard and tender. Cultures showed the KLEBS–LOEFFLER bacillus in great number. I at once injected fifteen hundred units of antitoxin. On the second day the temperature was 100°; pulse 100. On the third day the temperature was normal and the pulse 90. On the fourth day the throat was clean. This child had completely recovered, was dressed and able to visit and wait on her brother before he was able to sit up.

Two other girls in the family—aged seven and nine years—were exposed to the contagion by coming in contact with both the others through *carelessness*. I gave each three hundred units for the purpose of immunization. I was careful to conceal from them the nature of the medicine used and its effect upon the system, merely saying it would prevent diphtheria and would not hurt them. The result was all that could be desired. There was neither local nor general manifestations of the injections, and the girls did not contract the disease.

Cases IX and X.—Two laryngeal cases have come under my observation. The first I saw through the kindness of DOCTOR J. B. KENNEDY. When DOCTOR KENNEDY was called he found the child suffocating from laryngeal obstruction and thought it dead. He at once performed tracheotomy and inserted an elastic catheter, the only tube at hand—as he had no knowledge of the case when called. The throat was covered with membrane and by auscultation and percussion it was evident that it had extended to the lungs. The child was already suffering from septic infection. There seemed to be no doubt about the prognosis—speedy death. Antitoxin was administered. There seemed to be at once an arrest of all the grave symptoms. The fever abated. The membrane ceased to extend and became softened. The appetite improved and within forty-eight hours a hopeless case was changed into one which promised a speedy convalescence.

The second case I saw with DOCTOR PAUL DULITZ. The child, a strong, healthy German boy of five or six years of age, was apparently beyond hope with laryngeal stenosis. It seemed to me a waste of antitoxin to use it in this case, but as that was about all the family would allow it was tried with the result that the child breathed freely on the following morning and in a few days was well.

Case XI.—A third case is worthy of record. About three weeks ago DOCTOR DULITZ was telephoned to come and see a child upon whom another physician had been in attendance. Knowing this he called up the first physician and asked if he had been discharged. The physician informed him that the case was hopeless and he was at liberty to visit it if he wished. He called on the patient and found that there had been a consultation of physicians who had advised the employment of antitoxin, but for some reason unknown at that time it had not been used. Afterward it was found that the attending physician had returned to the house and informed the parents that the antitoxin was positively dangerous, and that intubation was only another way of letting a patient die easily. It seems, however, that in this respect he did not convince the parents and consequently DOCTOR DULITZ was called. At this time the doctor thought it useless to do anything but he asked DOCTOR O'DWYER to intubate, and then antitoxin—1500 units—was injected. This was at seven o'clock in the evening. The next morning DOCTOR DULITZ called early and remarked that the tube seemed to be giving the child no trouble. "Oh," remarked the mother, "he pulled it out at 4 o'clock in the morning." The child made a good recovery with the exception that he has not yet recovered the use of his voice. A few weeks afterward the child had a second attack, but an injection of one thousand units promptly relieved him.

The propriety of immunizing patients has been pretty thoroughly tested in Detroit. One of the best reports yet published is from the pen of DOCTOR DONALD and appeared in the September (1896) number of *Medicine*. I commend it to your careful attention.

On April 2 a case of laryngeal diphtheria occurred in the Protestant Orphan Asylum. The attendants thinking the disease catarrhal croup, attached no importance to it until the child was nearly asphyxiated. DOCTOR DONALD, who was then called, at once sent the child to Harper Hospital. This patient had associated for several days with the other children. Several cases of mild sore throat occurred and were isolated. No bacteriological examinations were made but all the clinical signs of diphtheria were present. On April 9 another well-marked case was discovered in which bacilli were found in abundance. It now became evident that the institution had an epidemic of diphtheria in process of incubation and it was thought best to try the immunizing effects of antitoxin. On April 10 eighty children each received two hundred and fifty units gratuitously supplied by PARKE, DAVIS & COMPANY. Each dose is now furnished in a small capsule containing one cubic centimetre or sixteen and twenty-three one-hundredths minims. From April 11 to 13 three new cases of sore throat were discovered. Each received an injection of five hundred units. No KLEBS–LOEFFLER bacilli were found, yet, clinically, these cases seemed to be diphtheria. On the 14th another case occurred in which diphtheria bacilli were found. From the 15th to the 20th five more cases occurred. No bacilli were found. On the 20th a case occurred which showed the KLEBS–LOEFFLER bacilli, and which proved to be quite severe. Between the 28th and 30th of April four more cases of mild sore throat were discovered in which the diphtheria bacilli could not be found. On May 1 another case of sore throat was noticed which, clinically, was believed to be follicular pharyngitis, but bacteriological examination revealed a pure culture of the KLEBS–LOEFFLER bacillus.

This report is very interesting to me as we have in the institution eighty children who were all subjected to the same influence—exposure to two cases of undoubted diphtheria and five which, clinically, would pass for diphtheria—and yet we find only three cases following the immunization and twelve of mild sore throat which were not diphtheria. The following note, sent to me by DOCTOR E. M. HOUGHTON, is of interest:

"Several weeks ago I was called to see a patient suffering with a sore throat (?). The patient was a little girl thirteen years of age. There were six other children in the family, between the ages of six and twenty. The sick child and well children had been together without any restrictions up to the time I saw them; also the sick child had acted as nursemaid for one of the neighbors, looking after three children under four years of age a great part of the time until noon of the day on which I was called. Examination revealed yellowish-gray patches on both tonsils, which were much swollen; temperature 102°; pulse a little above 100; general malaise. I made a culture from the throat and administered five hundred units of antidiphtheria serum. In addition I employed the ordinary local and general remedies and isolated the patient. Examination of the culture on the following day showed that it was a nearly pure growth of the KLEBS–LOEFFLER bacillus. On my second visit the following morning the child seemed but little better, so I administered a second injection of five hundred units of the serum, after which the membrane quickly separated and the child made a speedy recovery. As a prophylaxis two hundred and fifty units of antidiphtheria serum were administered to each of the exposed children, twelve in all, none of which developed a sore throat of any kind. Some of them, however, had a slight local urticaria following the injection. I have had charge of one hundred and seventy-four exposed children in hospital and private practice, to whom immunizing injections of about two hundred and fifty units of antidiphtheria serum were given. Three very mild cases of diphtheria have developed in those immunized."

From our experience in Detroit I am satisfied that immunization is harmless, and not more painful than an ordinary hypodermic injection. Our present success warrants further trial. The antitoxin put up by PARKE, DAVIS & COMPANY for immunization can be used in an ordinary hypodermic syringe. Two hundred and fifty units are contained in sixteen and twenty-three hundredths minims and can be forced through an ordinary needle.

The next question to be considered is how far does our experience conform to established conditions. As to epidemic, I find that in talking with my brother practitioners it is agreed that there has been but little difference in the severity of the epidemic for a number of years past. We always have more or less diphtheria in Detroit, and it varies but little in severity from one year to another. As to the death-rate before and since we have had bacteriological tests, we find that formerly, when everything was called diphtheria, it was greater than now. The fact is that so far as one can carry a series of cases in his mind from year to year the severity of the disease has been about the same for years, and the same mortality might be expected today as five years ago under the same treatment. But the fact is this. We are called to a child on the third day of the disease. The tonsils, uvula, and part of the roof of the mouth are covered with membrane. The temperature is 104°; pulse 120 or 130, fine and thready. The breath is very offensive. There is no appetite and the patient refuses all nourishment. In all candor what was your prognosis in fifty per cent. of such cases? Septic infection; heart failure from exhaustion; death. Do what you would, before you could destroy the source of infection and arouse the depressed vital functions death stepped in and claimed its victim. For two years this scene has apparently changed. By the new treatment the disease process in the throat is arrested. The further depression of the system is checked and within thirty hours we find our patient bright and cheerful, able to walk to the window to have the throat examined, willing to take nourishment, in fact convalescence is established. And today it is possible to find several physicians who have had a number of cases during the past two years and no deaths.

A few questions are pertinent here.

What effect has the antitoxin on the diphtheritic membrane?

It arrests its formation at once.

Does it promote the separation of the false membrane?

Yes; especially is this noticeable in laryngeal cases. There are, however, exceptions to this. I have seen several cases in which it took three or four days to clean the throat, but its effect upon the pulse and temperature is remarkable.

What effect has it upon the temperature and pulse?

A rapid reduction of both follow its use. There is one exception to this rule. When the antitoxin has been given late the weak, rapid pulse persists after the fall in temperature. Since I commenced to use antitoxin I have never heard of a death caused by a *slow pulse.* Formerly it was not uncommon to have patients die after convalescence had been established and visits discontinued by gradual slowness of the heart till it finally stopped.

What are its effects upon the course of the disease?

It shortens its course about one-half.

Of the evil effects of antitoxin I have nothing to note from experience, and I believe that much of the trouble experienced is due to faulty technique or some impurity of the serum. I have seen grave septic infection caused by the hypodermatic injection of a sixth of a grain of morphia. In the report of the American Pediatric Society, made up from three thousand three hundred and eighty-four cases reported by six hundred and thirteen physicians, no cases are reported of sudden death immediately after injection. Other reports contain deaths of this character but other factors were present rendering it unfair to say that death was caused by the injection. A case reported to me by DOCTOR LINN is very interesting illustrating the danger of forming an opinion of the cause of death under these circumstances. A friend of his, a DOCTOR WHITE, of Iowa, had made all arrangements to inject the serum when he noticed some strange appearance of the patient. On examination he was found to be dead. Had this occurred after the injection we would have had a good example of the danger of antitoxin. The cause of the sudden death was not ascertained.

In these cases the usual method of treatment was followed, excepting the use of mercurials, which were avoided. In this respect the use of antitoxin supplements our work. So far as necessary our old remedies are to be used to meet the various indications as before. **Doctor Donald**'s series of cases and experiments seem to show that immunized children remaining in contact with the infected may have the germ in the throat and yet not have diphtheria. It prevents their development on the fauces. What would have been the probable result of these cases under the old plan of treatment? The case of **Emma** we should have expected to terminate fatally in about twenty-four hours. All the laryngeal cases would probably have succumbed within a like period. **Mr. B.**'s child might have survived forty-eight hours. Of the twins, one was a hopeless case. I believe that the death-rate of thirty-five or forty per cent. would have been maintained without antitoxin.

TRANSACTIONS.

DETROIT MEDICAL AND LIBRARY ASSOCIATION.

STATED MEETING, JUNE 18, 1896.

The President, ERNEST T. TAPPEY, M. D., in the Chair.
Reported by WILLIS S. ANDERSON, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor Donald Maclean read a paper entitled "Surgical Dressings." (See page 537.)

Doctor F. L. Newman: With reference to this subject of asbestos dressing, I should think that the fact of its not being capable of absorbing secretions from a wound, which is a necessary part of the dressing, would be very much against it.

Doctor Longyear: If **Doctor Maclean** is correct about the matter not being absorbable that is not my experience with it. I use an asbestos pad for giving electricity on the abdomen, and I have never had any difficulty in saturating it with hot water. It feels very much like clay when softened with hot water, and yet these pieces shown are flat and hard at the beginning. I believe loose material like this would absorb water. The subject is certainly a very interesting one, and I have no doubt that asbestos is of advantage in surgical dressings.

Doctor Anderson: An article in one of the medical journals advising its use in country practice states that we would not be dependent upon any firm who manufactured it especially for surgeons, as the same material as we get in commerce could be used in surgery. As I understand it the same fibre is used in packing around machines. Practically all material that has been shown here tonight can no doubt be found in our hardware stores. The author of the paper said it could be used in making applications such as to the ear, dropping the liquid in, so that according to his experience it absorbed enough water to make it useful in such cases.

Doctor Carstens: In the paper there were a good many other valuable points besides this subject of asbestos. I think the doctor is right about the simplicity of dressings. The bandages they used to have in olden time were very complicated and consumed a great deal of time in their application. Take, for instance, a broken leg or a leg with erysipelas. The way they used to bandage that with cotton batting and put a roller bandage upon it was like torturing the patients. The less bandages we use the better. In certain lines of work where we use the buried sutures we employ very little bandaging, closing up the wound with iodoform collodion and imitating nature as far as possible. As to whether this asbestos is of use or not as a dressing I would not like to say. It seems very plausible, and we have simply got to try it.

Doctor Maclean: In the first place, as to obtaining the material I referred to a wholesale firm in New York whose name I withheld for obvious reasons at the present time, but in conversing with the head of that firm about this material I asked him where it could be gotten. He said it could be obtained at any good hardware store, and if any special arrangement was desired it could be ordered through the hardware store and he would be glad to make it. That is as far as they claimed any consideration. They had been in communication with **Doctor Keen**, of the United States army, and he said the firm were very willing to confer with any of the medical societies or members of the profession who wished to learn about it. I bring this to the attention of the society in the hope that we may be able to obtain useful surgical material from the firm, and I think it is very likely that we can. In speaking about the absorbent quality of it I did not mean to say that it was not absolutely free of abroptive power. I meant to say that it cannot be used for sponging out at an operation, but if it is desired to saturate a tampon with bichloride or other solution there is no trouble in doing that and it will take up a certain amount of the secretions. One remark of **Doctor Keen's** seems worthy of mention from a practical standpoint. I followed him with the entire approval as to the simplicity of the treatment of surgical and accidental wounds up to the concluding line of his remarks, namely, that when the wound is bandaged up properly it is all right. Now, one great object of my paper tonight is a plea to do away with bandages absolutely. For instance, who ever thought of putting a bandage on a case of cancer of the lip or harelip operation. I believe that the application of adhesive plaster, instead of being a benefit is an absolute injury and source of irritation. In the operation for circumcision, which I do very frequently, for a long time past I have applied no dressing whatever to the advantage and comfort of my patients as well as myself. I draw the edges together with little catgut sutures and then leave the part absolutely undressed. I would advise any one who is interested in surgery to look up the classical work by **Doctor John Bell** on surgical dressings. The young surgeon of the present day would derive advantage by reading this book. The whole gist of my paper tonight is a plea for applying as little dressing to the wound as possible, and above all, avoiding bandages. I believe there is far more danger of sepsis in a case in which a bandage is applied than where it is left perfectly open to the fresh air. In amputation of the thigh, where the parts are not too much douched, and where the hemorrhage is stopped and the wound rendered dry and clean and then closed carefully with suture, making provision for drainage but leaving the parts undressed, thereby obviating the ordeal of removing a bandage in three or four days after when it is dry and irritating—in this way only I think we get to the height of perfection in surgical dressing.

STATED MEETING, SEPTEMBER 14, 1896.

The President, ERNEST T. TAPPEY, M. D., in the Chair.
Reported by WILLIS S. ANDERSON, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor A. C. Lee, read a paper entitled "Obesity". (See page 548).

Doctor Carstens: This is certainly a very interesting paper and is quite out of the usual rote: It is a subject we have never discussed before. These cases of obesity come before us all the time. As abdominal surgeons we meet them, and they invariably cause us a great deal of anxiety before we attempt to do anything for them. Our experience with them is that they will not stand as much as lean persons; they have not the stamina. There is a class of women, and they are of a certain religious belief, that come to you and they are always tired. When I was in practice early in my career a young woman who was very fat came to my office for treatment for this trouble. "Well, madam," I said to her the first thing, "what do you eat?" She answered, "Doctor I—I hardly eat anything at all, a bird would starve on what I eat. In the morning I take a cup of coffee and eat a coffee biscuit or two, and then about half past nine some friends or neighbors come in and we have a light lunch—just some sausage and cheese and a glass or two of beer, but very little." "Well, how about dinner?" "O, I eat a good square meal. That is the only square meal I eat during the whole day. We first have some kind of soup, then roast beaf and potatoes, or corn beaf and cabbage and other vegetables, following these with dessert and finishing the meal with something to drink. In the afternoon about 4 o'clock we again have a lunch, and in the evening another glass of beer, et cetera. After listening to this recital I said to her, "My dear woman, you are beyond all cure; I really cannot do anything for you." The trouble is, with these patients, they eat too much. We are all inclined to eat too much. The food tastes good and we go on eating regardless of the consequences. Amongst savage tribes you do not find much obesity. Their wild and active life is against the formation of an excessive amount of fat. People who drink a great deal of beer become fat. Intemperance in this respect plays an important part in many instances for beer contains, in addition to the alcohol in it, a considerable amount of starchy material which, as we all know, is one of the elements in the production of fat, and I think those who are lean should drink beer. I do not think the doctor emphasizes this question of drinking strongly enough. People who are fat should stop drinking liquids as far as possible as a diminution in the amount of fluids in the body may reduce the disturbed circulation by relieving the venous congestion, in this way diminishing the strain upon the heart. A reduction in the quantity of fluids ingested lessens the amount of urine excreted, but we often have, as the doctor says, the formation of gallstones and renal calculi in connection with this trouble. Another thing that is of value in the treatment is physical exercise, such as bicycle riding. A great many people can reduce their weight in this way, and I have been thinking of trying it myself. Again the question of heredity is to my mind the most important one in these cases of obesity. I believe some people inherit the tendency to become fat and no amount of self-denial will enable them to grow lean. In our treatment we should aim to reduce fat very slowly and gradually because too radical treatment will certainly weaken the patient.

Doctor Longyear: I think Doctor Carstens rather struck the keynote of the whole thing in his last remark—that it is rather a matter of heredity than anything else. People do become fat on a cracker three times a day with a little fluid. They eat oftentimes only about one-half of what it takes to keep a lean man going, and I believe it is due to the transmission of the tendency. As to the treatment, the cutting off of fluids is very important. Mostly all fat people drink large quantities of fluids, and they should be cut down as part of the treatment. I noticed the doctor said nothing in his interesting paper about cautioning patients against proprietary medicines. All of us have known of cases in private practice dying from their use. They are certainly dangerous to health. For a time they will produce a reduction of the fat, but suddenly the patient colapses and dies. I have known of a number of cases. Women will often run great risks and take patent medicines to reduce their flesh, and we ought all to caution our patients to avoid these harmful remedies.

Doctor Warner: The Turkish bath has not been mentioned. I think this is sometimes quite efficient.

Doctor Longyear: Doctor Warner's suggestion reminds me of the massage treatment with salt, and I am glad she mentions the Turkish bath. I have frequently sent men to Robert Wright's on Miami avenue for treatment and the effect is really remarkable. He rubs the part to be reduced very vigorously with salt and then uses severe massage. When the flesh is reduced they must keep it down by proper physical exercise.

Doctor Ives: This is a very interesting paper to which we have just listened. I believe heredity plays the most important part in the disease. Some people will become fat on a cracker and a cup of water three times a day, while on the other hand three good square meals with plenty of liquids will not fatten others. I have tried this myself and have not succeeded in gaining flesh.

Doctor Lee: I have very little to say in closing except to thank the members for the kindly manner in which they have received my paper. I do not think the Turkish bath would be of much use without massage, and unless persistently kept up would be of very little value.

STATED MEETING, OCTOBER 10, 1896.

The President, ERNEST T. TAPPEY, M. D., in the Chair.
Reported by WILLIS S. ANDERSON, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor Guy L. Kiefer read a paper entitled "The Antitoxin Treatment of Diphtheria." (See page 507.)

Doctor Hickey: I am sure the society is very fortunate in securing the present report of cases. The American Pediatric Society is endeavoring to secure detailed reports of cases treated by antitoxin throughout the country and this contribution to that end is appreciated by our society as it will be by the national society. I am glad to know that the doctor brought into requisition the immunizing properties of antitoxin by administering it in instances where one or two members of the family were attacked and other members were exposed. It seems to me that such a course is highly advisable, particularly with those who are debilitated constitutionally or who exhibit a tendency to throat trouble. As a very forcible example of the immunizing qualities of antitoxin, might be mentioned the recent cases at the Children's Free Hospital, in which, after four of the patients were taken down with diphtheria, the remainder of the inmates, who were of feeble constitutions, were immunized, and this prophylactic measure prevented the occurrence of any other cases of the disease. It seems to me that such wholesale immunizing as this ought to furnish valuable data for future therapeusis. The doctor spoke of the notable reduction of temperature after the administration of the serum. That is liable to occur with free catharsis. It may be as high as 102° and after the proper evacuation of the bowels with calomel the temperature will drop. In cases of suspected laryngeal diphtheria I think antitoxin should be administered while the diagnosis is yet obscure. I recall one case that I saw in which two physicians had made a diagnosis of membranous croup and the old routine treatment of tincture of the chloride of iron and quinine was followed in this case. Intubation was performed and afterward tracheotomy without the administration of antitoxin. After death when the tracheotomy tube was drawn out large quantities of membrane came out with it. I think if antitoxin had been used in this case that the child's life might have been saved. I recall another case that had been treated two or three days by a physician and the child was becoming worse. A culture was taken but no bacillus was found. I administered antitoxin on general principles and was very much gratified to find that the alarming symptoms disappeared after twenty-four hours. The patient made a good recovery, but later developed a nephritis with supression of urine, from which it recovered. It seems to be a problem whether the use of antitoxin has any effect upon the production of nephritis. That question can only be settled by long experience with the use of the drug.

Doctor Steinbrecher: I agree with **Doctor Kiefer** in recognizing the benefits of the antitoxin treatment. I simply wish to say that in eleven cases in which I used the antitoxin I had ultimate good success, but albumin was present in all the cases.

Doctor Longyear: I have had no personal experience with the use of antitoxin. There are just one or two points I will touch upon. **Doctor Hickey** speaks of the differential diagnosis between membranous croup and diphtheritic croup. I thought the idea of there being a difference between the two had subsided long ago. I remember in the early part of my practice I received a rude shock on this very subject. I had been taught when I was a student that there was a difference between the two. I had a case and I diagnosed it membranous croup. The child died and I told the family there was no danger but in two days another child was taken sick. On examination I found a small patch upon the tonsil. The first child had no membrane visible upon the pharynx. The last one to become sick went on with the same history as the first and from that time on I had believed that membranous croup was identical with laryngeal diphtheria, and I believe that is the concensus of opinion at the present time. I certainly believe that the conclusions which the doctor has drawn are not exaggerated at all. I am a very enthusiastic advocate of the serum treatment.

DOCTOR CARSTENS: As regards the use of antitoxin I only know what the doctors up at the hospital tell me. When I was in general practice I treated these cases on general principles, and when I realized what an absurd thing it was to give chlorate of potash and tincture of the chloride of iron I discarded that old orthodox formula altogether. At Harper Hospital the house doctors performed five tracheotomies and these patients were also given antitoxin and out of over forty cases treated with the serum only two died. By tracheotomy the patient's life was saved for twelve hours to give the antitoxin an opportunity to produce its effects.

DOCTOR SUTTIE: I only know of the experience of DOCTOR BERT G. SHURLY at Harper Hospital where a series of tests were made with antitoxin. As DOCTOR CARSTENS says, five cases were saved by tracheotomy in short time. One of the cases was striking. There were two cases in one family and the hospital was telephoned to send the ambulance to bring them to the contagious hospital. The ambulance surgeon found three, one lying in a corner almost in rigor mortis, and said "Why, we only received instructions to bring two." "Well," the city physician said, "there is no use in taking this one; it will die in a few moments." The ambulance surgeon took the three along and they are all alive today. The concensus of opinion of the hospital staff is largely based upon the cases saved in that institution.

DOCTOR BONNING: The first experience I had was the first case mentioned by DOCTOR KIEFER. It was my opinion that the child would not live many hours longer. I think without the use of the antitoxin that the child would not have survived. I am a firm believer in the use of antitoxin and employ it in all cases where I think it necessary.

DOCTOR DOUGLAS: I am pleased with the paper of the evening as touching upon a subject in which the great mass of the people are getting interested, and I think it of more importance to the general practitioner than any other presented during the last two years. The facts as presented in the paper are such as we find recorded all over the country from private practice and public institutions. The report of the cases made by DOCTOR KIEFER accord with the experience we have had at the Protestant Orphan Asylum where there are about eighty children and where there has been an outbreak of diphtheria this spring. By immunizing the whole number we succeeded in preventing the spread of the disease and very soon eradicated it altogether. We had cultures made from the throats of those affected and examined at the laboratory of PARKE, DAVIS & COMPANY. I have not the data at hand, but DOCTOR DONALD, who carried on the work, has it and will probably report it to the society at some future time. The immunizing to which DOCTOR KIEFER has referred in his paper, I have followed with satisfactory results and found it to be successful wherever tried, and my testimony in its favor would run in the same direction as those reported by him. This precaution is absolutely necessary and the physican is not doing his duty if he does not immunize those persons who have been exposed to the disease. I remember one family in which the mother was taken down with diphtheria. A culture demonstrated the presence of the KLEBS–LOEFFLER bacillus. She had three children, two of them suffering from chronic rhinitis and enlarged tonsils. I immunized the three children. A reasonable supposition would be that the two children with the chronic rhinitis would be attacked with the disease but they suffered no trouble whatever. DOCTOR STEINBRECHER refers to the presence of albumin in the urine in connection with the use of antitoxin. I think this condition is too constantly referred to in acute maladies and leads to confusion. We frequently see reference made to the presence of albumin in the urine when reporting certain diseases. We find it present in disorders of the stomach and liver, in diseases of the nervous system, and febrile irritations of every kind. Temporary albuminuria is seen in connection with all the acute infectious and contagious diseases, for instance in typhus, typhoid fever, scarlet fever, measles, diphtheria, and also in severe malarial poisoning. The kidneys are the emunctories through which are discharged the waste material from the body. In the process of disassimilation the waste that is not thrown off through the bowels must be eliminated by the kidneys, and we find that there is albumin present constantly under these conditions. Now, bearing upon the question of the presence of nephritis after the introduction of antitoxin, recent experimental injections of antitoxin into rabbits showed a conjested condition of the kidneys in almost every case. The question here is, does that mean anything serious. I think it merely means this, that if we have a child suffering from scarlatinal nephritis and there is a diseased condition of the tubules of the kidneys the injection of antitoxin may be injurious, but it does seem to me that where the antitoxin is thrown in and so rapidly absorbed it is a foreign element and the kidneys are performing their natural function by eliminating its waste in connection with the other waste material and they are overcharged with the work thrown on them. In the examination of the rabbits there appeared areas which were markedly conjested as a result of the work carried on in the rapid elimination of the waste antitoxin products, but after several days the kidneys of other rabbits injected had returned to their normal condition. I think the profession stands today on this question of affection of the kidneys from the injection of antitoxin in this way—if the kidneys are in a healthy condition it will do no harm, and if they are diseased they may be affected in proportion to the extent of the disease.

Doctor Hitchcock: I remember one case I was called to see about 1 o'clock. The breathing was somewhat stertorous with a history of the child having been sick a week. Upon examination no membrane diphtheritic in character was observed, but on the left tonsil I found a thin spot which resembled the condition you find in follicular tonsillitis. I saw the child again between 6 and 7 o'clock and gave one injection of the antitoxin. The father was instructed to report if the child grew worse in any way but he neglected to do so and simply let the child die.

Doctor Newman: I have had only four cases to use antitoxin on. These, however, were all very bad cases—malignant, septic cases, and as far as the membrane was concerned the result was the same in every instance. Within forty-eight hours the membrane entirely disappeared. One case died of acute nephritis five days afterward. Whether the injection of antitoxin had anything to do with that or not I could not say.

Doctor Parker: I have had the same experience as **Doctor Newman**. The question introduced by **Doctor Steinbrecher**, with regard to albumin appearing in the urine, is interesting. I think it ought to be followed up. The great question today is, Shall we use the serum for immunizing purposes before any appearance of the disease at all? This point does not appear to be settled and the question is whether the remedy has such an irritating effect on the kidneys as to warrant its use. Many of the closest observers in France say that the remedy should only be used after the first appearance of the disease.

Doctor Miner: There is one point that was not brought up in the discussion. That is with regard to the selectien of cases. I never have seen a case of nasopharyngeal diphtheria recover under serum therapy. I have never seen a case of laryngeal diphtheria die when the serum was used. Regarding the treatment of laryngeal diphtheria I think that is where the serum treatment is of the greatest amount of value. I know of three cases in which the indications were to perform intubation or tracheotomy, but the family would not permit this and we then introduced the serum treatment and two of these cases fully recovered, which certainly was not expected. The other case died. I have seen thirty or thirty-five cases in which that treatment has been used with good results. I would like to get an expression from some members of the society with regard to the treatment of nasopharyngeal diphtheria with antitoxin. The point that **Doctor Hickey** brought up with regard to the temperature, that he has seen it reduced by free catharsis, is an important one. I do not think the temperature is any criterion whatsoever in diphtheria. I certainly have seen, especially in cases of septic diphtheria, the temperature become subnormal and the patient die. I think the high temperature is due to some complication. With regard to the immunity to the disease by the administration of an immunizing dose of the serum, I do not think a child should be treated in this way unless it has been exposed to infection.

Doctor Flintermann: I have had a very limited experience with the treatment of diphtheria. **Doctor Longyear** speaks of the fact that he never saw a case of nasopharyngeal diphtheria recover from the use of antitoxin. The only case of diphtheria I ever treated was one of nasopharyngeal diphtheria and it made a good recovery. A culture was made and examined by the bacteriologist of the health board and found to contain the **Klebs–Loeffler** bacillus. **Doctor Carstens** spoke of the absurdity of giving tincture of the chloride of iron and chlorate of potash. I believe that the administration of the tincture of iron, even in cases of membranous croup, in spite of the fact that the remedy does not come in contact with the membrane, has a beneficial effect upon the course of the disease. I believe that before the days of antitoxin it was found to be a valuable remedy in the treatment of diphtheria and croup. By such papers as the one presented here tonight is the best way of coming to a proper understanding of this treatment by antitoxin.

Doctor Kiefer: I only desire to say a word in regard to albumin in the urine in those cases reported. I said nothing about it in the paper for the reason that there was nothing in the history to lead me to look for albumin except in one case. The first case I reported developed during the course of the disease an irritation of the kidneys. We made an examination but did not find albumin. In regard to the sudden fall of temperature referred to in my report, while I realize that the temperature in diphtheria is not very constant in all cases and is liable to fall at any time, I still claim that this sudden effect of the antitoxic serum must necessarily be beneficial.

EXHIBITION OF PATHOLOGICAL SPECIMENS.

Doctor McGraw exhibited the following specimens and reported thereon:

I.—APPENDIX REMOVED FOR GANGRENOUS INFLAMMATION OF ITS MUCOUS MEMBRANE.

This specimen is an appendix removed from a young lady of twenty, a patient of **Doctor Duffield Stewart's**. She was taken ill on Monday. **Doctor Stewart** was called first on Thursday evening and called me in consultation on Friday morning. I found the patient with a fever of 102° Fahrenheit, a pulse of 120 per minute, and a cyanosed countenance. The patient was taken immediately to Saint Mary's Hospital and I operated on her on Friday afternoon. On opening the abdomen over the colon, pus was found immediately under the peritoneum. The appendix, large and thick, was doubled under the colon and bent on itself. It was not perforated but the lining membrane was gangrenous. There were no contents of any kind in the appendix. Here was a case of inflammation and gangrene without apparent cause. The inner wall of the appendix was not irritated by any connections. The organ was well nourished by vigorous arteries and its outer wall was intact. The bending of the organ on itself may have been a predisposing cause, and yet it is difficult to explain how it could have produced the trouble as it neither interfered with the blood supply nor caused retention of its contents. The probable explanation of the case is that the mucous membrane had become irritated by the action of some specific poison and this had caused a gangrenous inflammation. The destruction of the mucous membrane permitted the organic germs to wander through the walls and cause an abscess on the outside of the appendix, although that organ was not perforated.

II.—COLON REMOVED FOR THE PURPOSE OF RELIEVING OBSTRUCTION CAUSED BY CANCEROUS STRICTURE OF THE SIGMOID.

This second specimen is a portion of the colon, removed for the purpose of relieving the obstruction caused by a cancerous stricture of the sigmoid. This patient had been ailing for many months with a chronic constipation, abdominal distress, and gradual failure of strength. Her physician, DOCTOR ARTHUR AUSTIN, of Fowlerville, diagnosticated the case correctly and brought her to me for treatment. I performed an inguinal colotomy on September 17, drawing the colon out through the wound, fastening it in place by means of a stitch passed through the mesentery, and then opening it by a longitudinal incision. It was found filled on both sides of the wound with hard, dry lumps of feces. During the next week, the patient was kept quiet and after the first two days, given cathartics and injections, through the wound in the gut, of sweet oil. The oil was thrown into the distal as well as proximal side of the cut. In this way she obtained several good fecal discharges through the wound. On September 24 when I thought that the intestine had grown fast to the abdominal wall I proceeded to cut off the projecting portion. I found that while the upper portion had become firmly adherent the lower segment had not adhered at all. When the gut was divided it fell back into the peritoneal cavity. I drew it out and fastened it in place again. Examining the patient now by the rectum, I found it to be full of feces, which I was obliged to remove. The fact that a cancerous stricture of the bowel may become patulous and permit the escape of feces after a colotomy when it had previously been impossible is not a new one. It is to be explained by a consideration of the conditions which produce the obstruction. The obstruction becomes complete long before the channel of the gut has become obliterated by the cancerous growth. There is first a partial obstruction caused by the cancerous ring, then an accumulation of fecal matter begins to take place on the proximal side of the stricture. The weight of the feces and a certain atony of the bowel combine to produce a sagging of the bowel just above the stricture which bends it and produces a complete obstruction. In addition to this there is a congestion and swelling of the mucous membrane. This can not be relieved as long as the pressure above is maintained, but when the colon is drawn up to the abdominal wall and an opening is made in it which permits the escape of gas and feces, the bowel, relieved of the superincumbent pressure, is able to right itself, the bending is relieved, the congestion subsides and the stricture becomes pervious. Before the operation the stricture could not be entered with the finger; after the operation I could pass the end of the finger through the hard ring of cancerous growth, which I may say occupied the point of junction of the rectum and colon and which could just be reached with two fingers in the bowel.

WASHTENAW COUNTY MEDICAL SOCIETY.

STATED MEETING, OCTOBER 3, 1896.

THE PRESIDENT, WILLIAM F. BREAKEY, M. D., IN THE CHAIR.
REPORTED BY CYRENUS G. DARLING, M. D., SECRETARY *pro tempore.*

PRESENTATION OF PATIENTS.

A CASE OF LEUCODERMA.

DOCTOR BREAKEY presented a patient with leucoderma; a vigorous girl of fourteen, of precocious physical development, having the appearance of eighteen or twenty years of age and in good general health. She began to menstruate before twelve years of age. The lesions appeared upon the hands about nine months ago, and have symmetrically increased on wrists, forearms, face, neck, shoulders and chest. Nothing was learned in her history or condition shedding any light on the cause of the atrophy of pigment, the case corresponding in this respect to the large majority of such cases; neither was it more influenced by treatment. To satisfy the patient and her friends some trials were made with the local application of acetic acid, and with strong solution of bichloride of mercury without appreciable lasting effect. The doctor made some remarks on the pathology of the disease and the general opinion that it is an atropho-neurotic condition, and called attention to the analogy between leucoderma and alopecia areata, and to the recent claims made that the latter condition is parasitic.

A CASE OF PLEURITIC EFFUSION.

DOCTOR BREAKEY also presented a patient, male, about forty-five years of age, first seen by him in February last, at which time he gave a history of recent pleuritic effusion in the left side, for which he had been aspirated in Chicago a few weeks previously. Examination disclosed embarassed respiration causing pain on forced inspiration, with fever, and dullness over the lower left pleural cavity, which latter condition the doctor thought was probably due to collapse of the lung and thickening of pleura, rather than to remaining effusion. There was also bronchitis with considerable expectoration and reason to suspect tuberculous complications. He suggested a consultation with reference to determining these points, but the patient having become enough better to enable him to go out, and fearful of further operations, failed to report and was lost sight of until about three weeks ago, when he returned from Chicago (where he had been at work during the summer) with a large abdominal effusion which he stated had been accumulating for several weeks. The respiration and heart action were disturbed by pressure, and there was some bronchitis. DOCTOR BREAKEY learned that the patient had been in the University Hospital two or three weeks, soon after being under his care in March, where he had been aspirated several times without finding fluid. Two or three days after his last return, and on the day that DOCTOR BREAKEY had expected to aspirate the abdomen, a chill occurred followed by a sudden rise of temperature to 104.5° with severe pain on the right side over the lower pleural cavity and liver, greatly aggravated by attempts to inflate the lung. The distention of the abdomen rendered it difficult to examine the region of the liver, and the fear of peritonitis and of tuberculous conditions seemed to make it advisable to defer the aspiration at least until the acute conditions of pain and fever subsided. Meanwhile, coincidentally with the abatement of fever and pain, and under the influence of anodynes together with salol and quinia followed by magnesia sulphate, infusion of juniper, citrate of potassa, and digitalis the abdominal effusion rapidly and steadily lessened and the patient had for several days been walking out, and was now so much better that he was unwilling to have the abdomen aspirated. There was still a question whether there was effusion in the lower right pleural cavity; whether there had been diaphragmatic pleurisy, hepatitis, or peritonitis. There is still some bronchitis. As DOCTOR DOCK had seen the patient in the hospital last spring, he was asked as to comparative conditions then and now.

DOCTOR DOCK: I remember having seen this patient in my clinic, and that I tapped the left pleural cavity several times getting a very small amount of fluid though large needles were used. I find at the present time that the left lung is much retracted. During his stay in the hospital he exercised the lungs by the use of blowing bottles, which was followed by improvement in the condition of the lungs. The abdominal cavity probably contained fluid before the pleural, as it is rarely found in the abdomen secondary. I would advise aspiration as a means of studying the character of the fluid and to faclitate a complete diagnosis. The treatment while undoubtedly doing good will not effect a cure. I obtain the best results from salol in inflammation when given alone.

EXHIBITION OF SPECIMENS.

A FETAL MONSTROSITY.

DOCTOR McLACHLAN, of York, presented a specimen of what was evidently an undeveloped fetus. The patient had complained of pain in the right side before pregnancy, and was delivered at full term of a healthy babe. The placenta had to be removed. After delivery the nurse found this specimen among the blood clots. The lower portion looked like skin, upper portion like a sac filled with fluid. Between these was a small but normal-looking cord. There were no rudimentary arms or legs. The specimen had been in alcohol for some time and had shrunken to about three inches in length.

Doctor Dock said that he was interested in seeing this specimen because it resembled closely one in his possession, only it was much smaller. The process of development in the specimen exhibited having been arrested much earlier, it is a lesser form of monstrosity, there being no arms, legs, nor genital opening. The turf of hair seen here may be the point of development of the head or the sacrum, as many of these monstrosities show a tendency to develop hair about the sacrum as well as about the head. The cause of such is usually obstruction to circulation either embolic or inflammatory. Sometimes the cord circulation is entirely cut off and the growth is maintained by attaching itself to the other fetus. These are always twin pregnancies. If the skin be examined microscopically it will be found rudimentary. The tissues within are probably myxoid as no bones seem to have formed. In my specimen bones had formed, but they were small and very slender.

A DILATED HEART.

Doctor Dock presented a specimen of heart from a hospital case, important because it threw some light upon the treatment of valvular disease, and also illustrated a valuable method of preparing the heart for examination. It showed atheroma of aorta, insufficiency of the mitral and dilation of the tricuspid valves. The heart is four or five times the size of a normal heart, due to dilatation rather than hypertrophy, the right auricle being especially large. There was a history of syphilis and the patient had been taking digitalis for some time before he came under the care of **Doctor Dock**. He was cyanotic, there was edema, and the liver was enlarged. The action of the heart was irregular and at times no preceptible pulse. He grew rapidly worse. These conditions continued to the end, medicines having no effect in arresting the disease.

Doctor Belser asked a question about the eruption in typhoid fever. His patient was eleven years old, and the highest temperature during the course of the fever was 102°. The eruption was very thick on the lower part of the abdomen, varying in size from a pin point to a split pea, neither blue nor red.

Doctor Dock said this condition was supposed to be seen only in severe cases, but this was not true, as hundreds of spots might be present, some of them vesicular.

READING OF PAPERS.

Doctor Batwell read the following paper on "The Coexistence of Ovarian Tumor and Pregnancy."

Some time in October or November of last year I was consulted by **Mrs. D.**, aged twenty-four years, who was suffering, as she believed, from distressing flatulence, the result of obstinate constipation. Examination revealed a well authenticated case of ovarian tumor. There being no very urgent symptoms the necessity of interference on our part was not evident, and we resolved to wait for developments. Some two months after I became satisfied that pregnancy existed in conjunction with the tumor. Two distinct tumors could be distinguished by external examination. Internal examination revealed nothing. There was nothing remarkable in her condition during the period of gestation except the extraordinary size of the abdominal tumor. Both seemed to increase in equal ratio, and formation. On the 15th of April, about eight and one-half months from the first time I saw her, I was summoned to attend her in confinement. Examination revealed the os uteri dilated, and the bag of waters presenting, which, after a short time ruptured, but with no extra quantity of liquor amnii. The external size of the abdomen seemed very little diminished. The pains became severe and quick and the head was rapidly advancing when, during a pain, there was a gush of water from the vagina that flooded the mattress and the patient was actually floating in her bed. There was a subsidence of uterine contractions for some time, but they soon returned and labor progressed favorably, and she was delivered of a fine, healthy boy. After this flow of water the abdomen became flacid and flabby, and there was no difficulty in detecting the gravid uterus. Not a single untoward circumstance occurred to prevent her rapid recovery, but a tumor could be easily detected in the right iliac region, about the size of an orange, after her convalescence, which gradually diminished in size and at the end of three months could not be detected at all.

Here is a case which, for novelty of results and efforts of nature in overcoming untoward circumstances, it has not been my lot in a goodly number of years to see equalled, nor do I find anything like it in the experience or writings of others. There are so many curious points presented that consideration of them all would go far beyond the scope of an ordinary report:—the coexistence of ovarian tumor and pregnancy; the good health of our patient during the period of gestation, who, ordinarily, is a puny, delicate, childlike looking girl, not weighing over ninety pounds; the discharge of this tumor through the vagina, and the speculation as to where or how it took place; the rapid recovery of the patient, without a single drawback or unfavorable symptom, or anything to indicate the curious condition existing. That the tumor was ovarian is fully borne out by the existence of the lump in the right iliac region after her confinement and its gradual and final absorption. This we believe was the cyst of the tumor, but how or where the contents discharged is a subject on which we profess profound ignorance and submit it to the society for its consideration.

DOCTOR FROST stated that he had had a similar case though the flow of fluid and disappearance of the tumor took place three hours after delivery.

DOCTOR STEVENS, of Detroit, read a very interesting paper on the "Treatment of Diphtheria with Antitoxin," giving some valuable statistics. (See page 553.)

DOCTOR DOCK thought the society should be congratulated that such a valuable paper had been read. It is not necessary to wait until examination for bacteria is made to confirm the diagnosis before beginning treatment. Inject when you suspect diphtheria is present and lessen the danger of complications.

DOCTOR BREAKEY's experience in the use of antitoxin was limited to one case of typical diphtheria. The result in that was very satisfactory. He believed in acting promptly.

EDITORIAL ARTICLES.

POST-OPERATIVE INSANITY.

THE part played by surgical operations in the production of mental disorders has not received more than passing notice. An increasing collection of data furnishes some basis for a consideration of the subject, though no case yet recorded can be said to give any definite clue to the etiology of these complications. The fact stands for what it is worth that, in exceptional cases, either the administration of anesthesia, or the subsequent operation, forms the exciting cause in the production of mental alienation.

Why a surgical operation should give rise to insanity is a question to which present knowledge does not furnish an answer. It might be conceived that a highly-strung individual, or an over-wrought nervous system, might suffer shock similar to that afforded by some intense emotion, by previous dread, either of the operation or the anesthetic. This might so affect the individual that he might lose control of his will-power, and this balance once overthrown might never regain equilibrium.

The conclusions of MARIET would appear to be in accordance with the observations of American surgeons. These are that apart from those cases in which the patient suffered from the mental effect in general, a strong hereditary predisposition underlied. It is in those individuals who are predisposed by heredity or other rare causes, alcoholism, infectious diseases, et cetera, that surgical operations give rise to insanity. In the constituent elements of an operation that may act on the brain the two most important ones are the anesthetic and the degree of surgical traumatism with its after-effects, of which disturbed nutrition plays a very important part. When predisposition is considerable the anesthetic alone may produce insanity or may result from minor operations.

These conclusions do not account for the no less remarkable effect; the cure of insanity by operations. They do, however, indicate that no caution can be too far-reaching or too judicious in selecting the subjects for operative procedures.

THE CONGRESS OF CRIMINAL ANTHROPOLOGY.

THE proceedings of the recent Congress of Criminal Anthropology in Geneva were of an important character, and were signalized by some noteworthy debates. The crucial test of the existence of a criminal anthropology was put to DOCTOR LOMBROSO by PROFESSOR DALLEMAGNE when he asked whether the former "still maintained that there exists an anatomical type within which there is no criminal, and which suffices of itself alone to characterize the criminal." Until this was answered in the affirmative the claim of criminal anthropology to take rank as a science must go by default. In the meanwhile, undoubtedly, conclusions will continue to be arrived relating to criminal indices which will some day find their appropriate place in the framework of a criminal science.

ANNOTATIONS.

THE LAYMAN'S KNOWLEDGE OF MEDICINE.

THE layman's knowledge of medicine or surgery, except in exceptional cases, is usually so erroneous that it is usually felt to be worse than none at all, as a help to a rational understanding of the conditions of disease. A knowledge of medicine by the laity is always to be encouraged. That a little knowledge is a dangerous thing is the most fallacious of aphorisms. A man with no knowledge is much more likely to make his want of knowledge do the work of some, than is a man to make his little knowledge do the work of more. These reflections arise from the consideration of an admirable article by a lady, in another part of this journal, which seems to display an unusually accurate knowledge of surgery from the lay standpoint.

USE ANTITOXIN.

IT is asserted that the profession as a whole is not as readily accepting the therapeutic value of antitoxin as it should do. There is an indistinct dread that the injection of antitoxin may in itself be dangerous. When it is considered how much harmful and dangerous matter is daily ingested there should be no trepidation shown in injecting a small quantity of perfectly sterile horse serum. The mitigating and curative influence of antitoxin is now no speculation, and it should be used as an ordinary therapeutic resource in all cases of diphtheria.

THE REGISTRATION OF BIRTHS AND DEATHS.

A COMMITTEE of the State Medical Society is making a laudable effort to interest the profession generally in a new registration law. The need of more accurate vital statistics is too patent to every one to require any argument. The first necessity will be to make it essential that physicians alone shall testifiy to the cause of death. This will save such returns as have been made by which "fits," "sore inside," "yaller ganders," and so forth have been considered correct and satisfactory causes of death. It is hoped the profession throughout the state will second the efforts of the committee and impress upon the legislators of its vicinity that if any system of registration is to prevail it had better possess the first fundamentals of a useful measure—accuracy and uniformity.

CONTEMPORARY.

THE PHYSICIAN AS CITIZEN.

[THE PHILADELPHIA POLYCLINIC.]

THAT an unreasoning prejudice—and all prejudices are unreasoning—exists against the participation by physicians in political and sociologic agitations is an undeniable fact. We do not now refer to the scheming and office-seeking of place-hunters with medical degrees, but to that legitimate cooperation with one's fellow-citizens in behalf of social or economic measures believed to be of benefit to the community, which, according to the prejudice spoken of, is to be forbidden to physicians only, of all classes of the community.

Of course there have been notable exceptions. Doctor Joseph Warren, who fell at Bunker Hill while in command as General of the Massachusetts troops, and Doctor Benjamin Rush, no less eminent in the Continental Congress than in his lecture room at the University of Pennsylvania, occur to everyone. But what may be forgiven to the dead, or to men of genius, is denied to the living, or to those whose less commanding position and abilities render them more amenable to discipline by popular censure. Nor is the laity alone responsible for this feeling; many physicians share it, and look askance upon any colleague whose public spirit leads him into opposition to the powers and wrongs that be.

In this state of public and professional opinion, what is the duty of the individual physician? Shall he yield to public sentiment, which punishes its violation by curtailment of practice and income, or shall he pursue the even tenor of his way, fulfilling his duties as man and as physician to the best of his ability? It is a difficult question to decide.

There is no doubt that medicine requires not only close and constant devotion to study, but that the physician shall be within ready call of those to whom he has undertaken to minister. It is quite evident, therefore, that close and continuous devotion and engrossment in public matters, and the undertaking of a large share of the direction of political movements is incompatible with the active practice of the profession. So much being granted, however, it is also quite evident that a physician may, without detriment to his professional studies, and without neglect of his patients, give a portion of his time and thought and action to the public welfare; how much and how applied, circumstances and individual discretion must determine.

As the physician's habits of research, his endeavors to trace the causes and study the mechanisms of the disorders of the human frame, peculiarly fit him to trace the causes and study the mechanisms of the disorders of the social organism; and as his experience in combating disease of the human body fits him to pass upon the wisdom of measures proposed to prevent or relieve social distress, his active and interested participation in public affairs should be welcomed by all classes.

We firmly believe that if the measures from time to time proposed in the various legislative bodies could be referred to committees of physicians, to investigate in a scientific manner, without partisan prejudice or self-seeking ambition to influence their decision, the volume of legislation would be diminished nine-tenths, to the great relief of the suffering body politic.

But to return to the question of how that physician should act, whose interest in the welfare of his fellowmen leads him to desire to do his share toward bettering the social environment, yet who knows that the penalty of running counter to the prejudice of the community is loss of a part of his income; it will depend upon which consideration is, or must be, the weightiest. If he need not depend on professional earnings there is no obstacle to his doing as he prefers. In the other case, his first duty is to earn a livelihood for himself and his family; this being provided, his own character will decide how far he is willing to forego ease, and comfort, and position, for the sake of doing what he considers it his duty to do for his compatriots or for mankind at large.

What should be the attitude of the profession toward physicians who strive to perform their civic duties, is easier determined; it ought to be one of encouragement, sympathy and active support, professionally and personally. That it is not such, is a matter of everyday observation—and of reproach.

LARGE FEES.

[THE MARYLAND MEDICAL JOURNAL.]

Patients and their friends so often complain and find fault with the fees of their physicians, usually when convalescence is complete, that it is a great relief to see the value for medical services named by the would-be patient.

An eccentric millionaire has offered a fee of one million dollars to the person who will restore his lost sight. He has atrophy of the optic nerve and it is likely that this fee will never be earned, but it only shows what value a man with the necessary money puts on his sight. The question will doubtless be raised whether this fee would be paid should sight be restored. Such fees should be collected while gratitude is fresh and the memory is green.

A man will grudge a paltry five hundred dollars to the surgeon who by skill and care saves his limb, but let this man lose that same limb later in a railroad accident and notice if he sues the company for only five hundred dollars. He sues the company for what his lost member is actually worth to him and he has forgotten what his faithful attendant did for him.

Medical service for the deserving poor cannot be too small and for the deserving rich cannot be too large. No medical man should spring a large price on a wealthy man just because he is wealthy, when he has charged one less well off a smaller fee for the same work, but in operative work the sum to be charged should be named and then if objections are offered the patient able to pay large sums should be given a chance to seek out one who will work for less money.

If a surgeon is known to make high charges and the patients visit him and demand service without asking what the cost will be, no complaint should be made if it is high. No physician is obliged by law to render service if he does not choose to do so and where there is other medical talent at hand there is no cruelty or neglect.

The question of charging clergymen comes up again and again. Many of them pay nothing for medical services and seem to take it for granted that no fee will be asked. Because a man is a clergyman receiving a large salary and with small expenses, is there any reason why he should get free services from a young physician who is struggling to succeed? There is only one answer to this question. The clergyman should at least offer to pay and if the medical man prefers to make no charge or thinks it is policy to put the clergyman under obligations to him, then the clergyman cannot be blamed.

On top of all this false sentiment about physicians doing so much good and giving free services to clergymen, comes the statement that Louisville has imposed an income tax on physicians ranging from ten to one hundred dollars, according to the income received.

This of course will be fought, for class legislation should never be allowed. The laborer is worthy of his hire and the sooner that such false ideas of giving something for nothing are brushed away, the sooner will the public begin to understand that because a class of men, and women, too, follow a profession because they love it, there is no reason why their services should be given free or at a greatly reduced price when the ability to pay a full price is evident.

MEDICAL NEWS.

A MACHINE FOR WEIGHING THOUGHT.

PROFESSOR Mosso, an Italian physiologist, has recently set the scientific world agog with an invention designed for weighing thought. Acting upon the established physiological principle that the volume of blood in the brain is in direct proportion to the exercise of its function, the inventive genius of this experimenter has evolved a machine which will determine the varying amount of blood in the cerebral think-box. The device consists of delicately constructed balances which are so sensitive as to "readily detect the difference in the exertion required to read Greek above that necessary to read Latin." The marvellous success which has thus far attended the efforts of this benefactor will doubtless act as an incentive to still greater achievement in the physiological domain, and who can divine but that the near future may record the invention of a machine that will accurately reflect the particular line of thought occuring in the human mind. Here is an opportunity to do postgraduate work in physiology that would at least afford the student newspaper notoriety.

SIR BENJAMIN WARD RICHARDSON.

THIS eminent English physician died of apoplexy on the 21st ultimo, aged sixty-eight years. The doctor was a devoted student to experimental research, and in 1865 detected the special poisonous product of the spreading contagious diseases and christened it septine. Later he discovered that the application of ether spray obviated local pain in surgical operations, and that nitrite of amyl possessed a controlling influence over tetanus and other spasmodic affections. The general anesthetic properties of methylene bichloride were first brought to the attention of the profession by the doctor, and in later years the diseases incident to modern civilization were the subject of his earnest study. He was the author of numerous contributions to scientific literature and a zealous advocate of the experimental method of medical practice.

THE PANAMERICAN MEDICAL MEETING.

THE Second PanAmerican Medical Congress was held in the City of Mexico, on November 16, 17, 18 and 19. Doctor Edwardo Liceaga, secretary-general of the congress, reported that five hundred and fifty physicians had signified their intention to attend the meeting. Ninety-six of these were to be accompanied by their wives. The invitation to attend the congress was accepted by the United States, Gautemala, Nicaragua, San Salvador, Honduras, Costa Rica, Argentina, Venezuela, Equador, Uruguay, Cuba, Hayti, and the French and Danish West Indies.

* * *

The president of the congress, Doctor Manuel Carmona y Valle, welcomed the visiting delegates, and then delivered an address on "Medical Education in Mexico." In 1578 a chair of medicine was founded in the college of San Juan de Letran, and for four years one professor lectured on all branches of medicine. Twenty-one years later a second chair of medicine was established, and eventually others were added. In 1768 the Royal Cellege of sergeons, with a faculty of four, was created. It graduated phlebotomists, dentists, bone setters, midwives, and Romancist surgeons, the latter name being in contradistinction to Latin surgeons who were graduated from the San Juan de Letran University. In 1821 the Royal College of Surgeons became the National School of Surgery, and in 1830 the degree of Ph. B. was required of applicants for admission. In 1831 the distinction between physicians and surgeons was obliterated and one diploma henceforth issued. In 1833 the university was closed, a board of education established, and several schools created, among them the school of medical science. This institution was named the National School of Medicine in 1842. During the decade ending 1877 five new chairs were added, and the faculty has been increased by ten professorships with many assistants, since that date. Matriculates must pass a satisfactory examination in Franch, English, Latin, Spanish, Greek roots, figure and landscape drawing, physics, geography, chemistry, botany, zoology, logic, morality, history, and national and general literature. The medical course is five years. The remainder of the address was devoted to advocating nosological reforms, condemning unjustifiable surgery, and deprecating the use of proprietary remedies.

* * *

The meeting was a pronounced success, the attendance being large and the papers abundant. Doctor William Pepper, of Philadelphia was elected president and the next meeting will occur in Venezuela two or three years hence.

MINOR INTELLIGENCE.

THE bubonic plague is spreading in Bombay, India.

YELLOW FEVER is epidemic in Port au Prince, Hayti.

THE medical department of the British army is short sixty men.

INSANITY increases in Michigan about 300 every biennial poriod.

THE Practical School of Medical Specialties has begun operations at Madrid.

PROFESSOR LEWIN, of Berlin, died on the 2d of November, aged seventy-six years.

AN epidemic of diphtheria is prevalent in the southwestern portion of Kansas.

IN Johannesburg, South Africa, people die at the rate of thirty-two per thousand.

A STATE medical society has been organized by the colored physicians of South Carolina.

M. ROUX has been decorated by the German Emperor for his discoveries relating to diphtheria antitoxin.

A WESTERN contemporary records the birth of a healthy child to a mother at ten years and two months of age.

DOCTOR MARY PIERSON EDDY is the only woman physician authorized to practice medicine in the Turkish Empire.

THE Royal Society of Great Britain has awarded a medal to Professor Roentgen for his discovery of the X-rays.

DOCTOR E. B. SMITH, of Detroit, read a paper before the Second PanAmerican Medical Congress entitled "Gastro-Enterotomy."

IT is most emphatically denied that Canadian women indulge in the bicycle as "a means of gratifying unholy and bestial desire."

PROFESSOR MOISSAN, of France, has been awarded a medal by the Royal Society of Great Britain for isolating the element fluorine.

DOCTOR THOMAS MORE MADDEN, of Dublin, has received the honorary degree of M. A. O. (master of the obstetric art) from the Royal University of Ireland.

THE British Association for Child Study is the name of an organization recently founded at Newcastle-on-Tyne. Doctor Oliver was chosen president.

AN ameba-like rhizopod has been discovered in ascitic fluid from the human subject, to which Doctor F. Schandinn has given the name Leydenia gemmipara.

A BILL authorizing a loan of $3,000,000 for the construction of filtration plants in connection with the city water supply has been passed by the council of Philadelphia.

DOCTOR EUGEN BAUMANN, of Freiburg, the discoverer of thyreo-iodine, recently died, aged nearly fifty years. He had distinguished himself as a physiological chemist.

THE Association of Assistant Physicians of Hospitals for the Insane held its fourth annual meeting at the Eastern Michigan Asylum in Pontiac, Michigan, on December 3 and 4, 1896.

MEDICATED honey is a therapeutic agent recently introduced by a Frenchman in Paris. The bees are kept in a glass enclosure and dieted on flowers that possess the desired properties.

A LONDON woman recently committed suicide by cocaine. At the inquest it was learned that fifty grains of the drug had been stolen by the victim from a drawer in the office of her physician.

HENCEFORTH the medical services of the German army and navy are to be separate, and the privilege heretofore accorded members of changing from one military department to another has been abolished.

A HUGHLINGS JACKSON lectureship will be established by the Neurological Society of London in honor of the first president and one of the founders of that organization. Doctor Jackson will deliver the initial lecture.

AT a recent meeting of the Asiatic Society of Bengal Sir Joseph Lyster and Professor Michael Foster were elected honorary members to fill vacancies occasioned by the deaths of Professor Huxley and M. Pasteur.

THE secretary of the treasury has lately ruled that it is unlawful for Canadian trained nurses to render service in American hospitals, and several who are employed in a New York sanitarium are to be deported forthwith.

PETROLEUM is employed as a local application for the treatment of gout in Russia. A sanitarium called "Naphthalan" is conducted in Elizabethpol, and several hundred patients are annually treated thereat with gratifying results.

THE Detroit College of Medicine was greatly damaged by fire on the morning of the 17th instant. The loss is said to be covered by insurance, and the work of reconstruction is already in progress. No interruption occurs in the class work.

SWISS physicians have been experimenting with the hot-sand bath in vogue among Mohammedans and have obtained excellent results in neuralgia, rheumatism, and gout. They attribute to it sudorific properties which do no affect the heart.

DOCTOR WALTER F. CHAPPELL has introduced a shade for the Welsbach light for illumination of the upper air tract. "It consists of a section of iron or aluminium tubing, nickel-plated on both sides and of sufficient diameter to fit over an ordinary (one-piece) mica chimney or standard."

OHIO has 7,579 physicians. Of this number 4,030 belong to the regular school; 1,199 to the eclectic; 678 to the homeopathic; 155 to the physio-medical; and 757 are unclassified. Between 1,500 and 2,000 have been banished from the state in consequence of the new law regulating the practice of medicine.

ADIPOGEN is a new medicinal preparation recently introduced in Norway and since placed on sale in this country. It is in the nature of salted livers of the cod dispensed in cans. Its medicinal virtues are said to exceed those of cod-liver oil, and are attributable to the tonic properties of the alkaloids of the liver.

Doctor Caroline B. Winslow recently died in Washington City and left a will bequeathing her body to Howard University to be dissected by the women students, and her mounted skeleton to the Minor Normal School of the district. The university authorities declining to accept the gift it was consigned to the crematory.

The Lord Mayor elect of London has declared his intention to signalize his mayorality and commemorate the sixtieth anniversary of the reign of Queen Victoria by raising a national subscription to liquidate the indebtedness on the public hospitals. It is estimated that the involvement is nearly or quite £1,000,000.

The Michigan College of Medicine and Surgury of Detroit has inaugurated a series of public lectures on popular medical subjects. The first discourse was delivered on Friday evening, November 20, by Doctor Samuel Bell, of Newberry, Michigan, the theme being "The Past History, Modern Care and Treatment of the Insane."

Pathological specimens may be preserved by formalin. A number which had been treated with this drug were recently exhibited at a meeting of the London Pathological Society, and, notwithstanding several months had elapsed since they were subjected to the preservative, no change in their original color was noticeable.

Several scholars in a Montreal school were recently forced to partake of an infusion of tobacco. The obnoxious weed was found in possession of one of the boys, and the fool teacher inflicted the drink as punishment. Fortunately none of the pupils were fatally poisoned. Instead of being deposed the teacher was merely reprimanded.

An emergency ration for the army has finally been adopted by the war department. It consists of bacon, 10 ounces; hard bread, 16 ounces; pea meal, 4 ounces, or an equivalent in approved material for making soup; coffee, roasted and ground, 2 ounces; or tea, 0.5 ounce; saccharin, 4 grains; salt, 0.64 ounce; pepper, 0.04 ounce; tobacco, 0.5 ounce.

The revised list of officers of the Twelfth International Medical Congress which will convene at Moscow on August 19, 1897, is as follows: Professor N. W. Sklifassowski, president of the committee of organization; Professor J. F. Klein (who is president of the executive committee), vice-president of the committee of organization; Professor W. K. Roth, secretary-general.

The corporation of Harvard University has decided to establish an infirmary. Plans have been prepared by the architect, and the committee is casting about for a suitable site. It is proposed that the running expenses of the infirmary be defrayed by a fixed charge on the term-bill of each student, and that medical attendance upon poor students be compensated from the general fund.

The Allegheny Medical Society has been interesting itself in the method of effecting capital punishment in Pennsylvania. A special committee appointed by this organization to consider the matter has rendered a report favoring the substitution of gas for hanging as a means of enforcing the death penalty upon condemned criminals, and the legislature will probably have to deal with a bill of this import.

The Faculty of Medicine, of Paris, has been presented with a collection of twenty-two hundred brains, by Doctor Luys, of the Salpetriere Hospital. The collection, which has taken thirty-two years to accumulate, is carefully prepared and catalogued, and includes the brains of idiots, of persons who had suffered from various mental disorders, of persons who had undergone amputations, and of persons who had become blind.

THE inhabitants of Paris are still experiencing an inadequacy of water, notwithstanding all available quarters of supply in the vicinity of the city have been exhausted. The per diem allowance of each person is only a little more than half the quantity provided in New York City, and in order to satisfy the demands of hygiene the authorities are considering the advisability of expending $100,000,000 to conduct water from Lake Geneva, the plentitude and purity of which source is assured.

THE physicians and surgeons of Santa Clara county, California, have resolved that "rendering professional services at a stipulated fee per capita per annum is derogatory to the dignity of the medical profession," and henceforth will not "enter into any contract or agreement, or renew any existing contract or agreement, either written, verbal or implied, to render medical or surgical services to any lodge, society, association or organization." They also refuse to treat individual members of these bodies for less compensation than the general public pay for similar services.

METHYLENE violet is announced by M. de Castel as a treatment for facial epithelioma. He recently described, to the Paris Medical Society, a method of employment which has been in vogue with him for several years. A preparation consisting of twenty grains of methylene violet and one grain each of alcohol and glycerine is applied to the diseased area every third day for two weeks, after which a solution of chromic acid (1–5) is substituted for a few days, when the methylene is again brought into requisition. Penetration of the drug is insured by scraping away vegetations.

Two new buildings were recently opened at the Upper Peninsula Hospital for the Insane at Newberry. One has capacity for fifty violent and acute cases, and the other seventy. Several more cottages are contemplated and when they are ready for occupancy the institution will have capacity for 350 patients, over 200 of which number are already accommodated. Seventy upper peninsula patients from the Northern Michigan Asylum at Traverse City have been transferred to Newberry, and many insane who have heretofore been confined in jails will now be furnished more comfortable quarters.

TEN million barrels of beer are produced annually by the 289 breweries which infest New York. The state board of health has been importuned to further the enactment of a law demanding that only hops and malt shall be employed in the manufacture of this beverage, and providing for analyses of different brands for the purpose of ascertaining whether glucose, corn-meal, rice, syrup, starch or other articles are substituted for hops. The age of beer will likewise receive consideration, that the effects of injurious properties in the fresh product may be obviated by longer storage before placing "on tap."

RECENT PUBLICATIONS.

REVIEWS.

THE HISTO-PATHOLOGY OF THE DISEASES OF THE SKIN.*

THE injustice of making a hasty estimate of a work which displays such erudition and originality as does the production of Doctor Unna, has led to some delay in calling the attention of the profession to his scholarly effort. The work is divided into six sections: Anomalies of Circulation; Inflammation; Progressive Disturbance of Nutrition; Malformation; Saprophytic and foreign bodies. Dermatologists will find in Doctor Unna's work much which will cause them to reflect. Many new views are suggested, and innumerable questions are propounded for solution. The whole subject is treated in a broad and comprehensive spirit, and every page is marked by indefatigable labor and research. The work will be one which will doubtless furnish dermatologists with much incentive for disproving or confirming many of the doctrines advanced. Copious illustrations elucidate the text, and the work will be found as interesting and useful to the general practitioner as it is essential to the specialist.

*By P. G. Unna, M. D. Translated into English by Doctor Norman Walker. MacMillan & Company, New York.

TRANSACTIONS OF THE MICHIGAN STATE MEDICAL SOCIETY.

THE proceedings of the State Society are an interesting collection of papers, carefully edited, and in all respects readable and instructive. They will be found particularly attractive, not only for the personal interest pertaining to them, but on account of their obvious scientific merits.

THE PHYSICIAN'S VISITING LIST.*

THE Physician's Visiting List will be found to possess all the merits which have made it so acceptable to the profession in the past. For forty-six years this little book has made its annual bow to the public, and must by many be esteemed an essential of the professional career.

*P. Blakiston, Son & Company, Philadelphia.

MEDICAL PROGRESS.

MEDICINE.

THE THERMIC CYCLE IN ACUTE INFECTIOUS DISEASES.

A RECENT monograph by Maragliano presents a useful study of the cyclical evolution of fever in its relations with local morbid *foyers* occurring in the principal acute infectious diseases: pneumonia, articular rheumatism, typhoid fever, follicular tonsillitis, erysipelas, measles and scarlet fever.

In fibrinous pneumonia the fever lasts generally seven full days; but this thermic cycle corresponds to a single centre in one lung, or to several running their course simultaneously. When the pneumonic infiltrations form successively, the fever persists longer. In this case, each pneumonic focus produces a febrile reaction which is less than seven days; in fact, the febrile attacks are shorter and shorter, and finally there may be pneumonic infiltrations without fever.

It is generally admitted that in pneumonia the fever presents a continued type. According to Maragliano, this continuity is only apparent. In fact, if the patient's temperature is taken from hour to hour, remissions which are sometimes considerable are noted, and even intermittences in the febrile movement. Early crises are more frequent than is generally supposed. Out of 264 cases he has seen the crisis supervene on the second day in 2 cases, the third day in 3 cases, the fourth day in 7, the fifth day in 35, and the sixth day in 41 cases.

The prognosis of pneumonia does not depend on the maxima of temperature, but on the continuity of the fever. As long as the infection lasts the fever persists, and while this continues the pneumonia may always have a fatal issue, no matter what may be the height of the fever. The resolution of the local process has no direct and constant relation to the state of the fever, as the engorgement, the exudation, et cetera, remain for a veritable time after the cessation of the fever.

In broncho-pneumonia and pleurisy the thermic cycle cannot be determined with exactness on account of the complex microbial origin of these affections.

In acute rheumatism the fever is the base of the elevations of temperature corresponding to each of the articular manifestations successively occurring. The number of joints simultaneously affected exercise no influence on the duration or intensity of the fever. One or more foci undergoing evolution together give rise to a fever whose duration never exceeds seven days. The total duration of the febrile period has no fixed limits, seeing that it depends on the number of successive local invasions. The fever in acute rheumatism has ordinarily a remittent character. The intensity of the infection is generally in direct relation with the degree of the fever.

In subjects affected with typhoid fever, we have multiple infectious foci in the intestine at different periods of development. Cases will occasionally be observed in which the fever lasts only a week. Maragliano has noted many such, where the clinical diagnosis was confirmed by a careful bacteriological examination. These were probably single dothinenteric foci without mixed infection. In typhoid fever, as in other acute microbian diseases, the fever is the index of the existence and of the intensity of the infection. When every symptom of general infection disappears the fever ceases. Relapses are attended with a fever less prolonged than that which accompanied the primary infectious *foyers.*

A single focus in acute follicular tonsillitis provokes a fever which lasts ordinarily just a week. If a second focus is formed, the fever which accompanied it is of less duration, so that two successive foci run their course in less than a fortnight. In acute tonsillitis the fever continues as long as the general infection lasts.

The fever of erysipelas has a variable duration according as there exists one or more foci undergoing evolution successively. A single primary focus, whatever may be its extent, produces a fever of only seven days' duration. *Foyers* forming one after the other prolong the fever, but not in the same proportion. The fever in erysipelas takes on a sub-continuous type, and ceases with the crisis. The symptoms of the general infection are in relation with the existence and intensity of the fever.

In measles (when exempt from complications) the duration of the fever is about seven days. It is the same with scarlet fever. In these two diseases, the symptoms of the general infection and the fever disappear at the same time.

In all the acute infectious diseases there exists a constant relation between the fever and the symptoms of the infection due to the penetration into the general circulation of toxins elaborated by the pathogenic microbes. At the same time there is still a factor which intervenes in the development of the fever, namely, the manner in which the nervous system concerned in the production and regulation of animal heat, reacts against the infection. Individuals whose nutrition and force of resistance are enfeebled react against a same pyretogenous cause by a fever less intense than robust subjects, while those who present considerable thermic elevations support better the grave infections.

It will be seen in most of the infectious diseases, such as pneumonia, follicular, tonsillitis, erysipelas, measles, scarlatina, the duration of the thermic cycle corresponding to a single centre of infection is just seven days. From this fact, Maragliano concludes that in a single focus only a limited number of generations of the pathogenic microbe develop, and that, on the other hand, the febrile reaction is provoked, not by the bacterial toxalbumens whose toxic action varies according to the specific microbe from which they come, but by the protonucleins in the bodies of the bacteria; we know, in fact, that these proteins, whatever may be the microbe to which they belong, exert always on the animal organism the same pyretogenous and phlogogenous action.

As for the abortive infections in which the fever lasts less than seven days, we have really to do with subjects particularly refractory to the pathogenic microbe, for which they constitute a bad culture soil. Maragliano thinks that the fact that each of the foci of infection successively forming produces a fever of less and less duration, is to be explained by the accustomance of the patient to the bacterial poison by a progressive autoimmunization. The study of the fever chart in the acute infectious diseases furnishes to the clinician important indications. Thus, each new ascension of the temperature indicates the formation of a new focus of infection. A fever whose degree is not in relation with the intensity of the other nervous troubles has an unfavorable signification for the prognosis. A fever chart which presents few oscillations indicates that the bacterial poison penetrates the circulation in a continuous manner; on the other hand, the existence of considerable oscillation is the expression of intermissions occuring in the activity of the pathogenic microbes, a fact which is of good augury from the point of view of the evolution of the disease. The temperature chart, therefore, is our index of the actual toxin-producing activity of the bacteria, a sudden rise indicating that having exhausted their present field of activity, they have made new inroads into healthy tissue.—*The Boston Medical and Surgical Journal.*

THE ACTION OF STRYCHNINE IN CHLOROFORM COLLAPSE.

The *Union Medicale* of July 11 contains the following abstract from an article by Evenhoff, which was published in *Vratch:* Arrest of the heart is one of the most important causes of collapse during chloroform anesthesia. The paralysis of the vaso-motor centre which is provoked by the latter brings about the rapid fall of the blood-pressure, and this fall, by depriving the cardiac muscle of its excitant, is one of the causes of the arrest of the heart. As the result of experiments, Professor Bobroff proposed making subcutaneous injections of sodium chloride in cases where the pulse was feeble during chloroform anesthesia. Evenhoff's experiments with strychnine were as follows: Tracheotomy was practiced on dogs, and a tube was introduced into the larynx and put in communication with a small bottle which contained chloroform. Artificial respiration was made in such a way that the air passed through the bottle, and it could be charged or not with chloroform. Before chloroformization the pressure was noted; then the air, charged with chloroform, was injected, and, when the pressure fell to zero, pure air was injected and an intravenous injection of from two to three milligrammes of strychnine was administered. When the pressure finally became normal the animal again received inhalations of chloroform. In this way the action of the chloroform before and after the injection of strychnine was ascertained. The results of these experiments showed that, owing to these injections, dogs which usually tolerated chloroform badly could support the drug without inconvenience for a greater length of time. The favorable action of strychnine on chloroformization was thus demonstrated. Strychnine, however, has two inconveniences; it may possibly provoke a tetanoid attack, and, given in the dose employed by Evenhoff, it increases parenchymatous hemorrhage.—*The New York Medical Journal.*

SURGERY.

A NEW METHOD OF OPERATING FOR HYDROCELE.

The operation for the radical cure of hydrocele should be performed in the following manner: The sac is punctured in the usual way, and when about a third or one-half of the fluid has been withdrawn, two drachms of a saturated solution of bichloride of mercury in glycerine are injected and mixed with that which remains, and allowed to rest in the sac for from a half-minute to a minute. The whole of the fluid is then drawn off to the last drop. Very little pain is experienced, and unless the patient is nervous and takes an anesthetic, he is able to move about immediately after the operation. For the next few days he must, as a rule, lie about, but need not in any case be confined to bed, and in a week or less he is quite well. Provided the surgeon is careful that his hands and instruments are clean and free from micrococci when the puncture and injections are made, they produce a uniform result, namely, sufficient aseptic inflammation to obliterate the sac and nothing more.—*The International Medical Magazine.*

SURGICAL TREATMENT OF RENAL CALCULUS.

Nash reports four interesting instances of renal surgery. The first was a case of hydronephrosis, depending upon the presence of a calculus which, when aggregated in the renal pelvis, had failed to pass along the ureter, and, by occasionally blocking the waterway, led to serious distension of the inclosing structure and the formation of a fluid tumor, which occupied at one time the lumbar region and at others passed up under the liver and ribs, to be hidden both from sight and touch. Through a vertical incision two and one-half inches from the centre of the lumbar spines the kidney was speedily reached, the pelvis defined and incised, and the calculus removed. The patient, a woman aged thirty-eight years, made a good recovery. In the second case there was a persistent tumor in the loin, which did not appear to vary much in size. This was found to be due to closure of one of the papillæ by flakes of phosphate of lime, and consequent distention of the corresponding calyx. Incision of the kidney, followed by dilatation, resulted in the discharge of several ounces of white, flaky material. Careful examination of the cavity failed to reveal any solid, calculus mass. This operation was completely successful, and on the fourth day the urine ceased to flow by the lumbar wound. The third patient, a woman aged fifty-four years, had a suppurative pyelitis and a perinephritic abscess of large extent, the communication between the former and the latter being a small opening in the renal pelvis, or, more correctly, one of the calices of this cavity. Under this lay a small, phosphatic calculus imbedded in a mass of soft granulation tissue. The large purulent cavity was opened by an oblique incision parallel to the last rib and the calculus removed. The patient, who at the time of the operation was in a very critical condition, was well and able to leave the hospital at the end of the sixth week. In the fourth case, which was one of severe lumbar pain on the right side and hematuria, a brown, almost circular stone was found lying in one of the posterior calices. The renal structure and both the fibrous and fatty capsules of the organ were in a normal condition.—*British Medical Journal.—Universal Medical Journal.*

PEDIATRICS.

THE TREATMENT OF CEREBRO-SPINAL MENINGITIS WITH HOT BATHS.

Wolisch (*Therapeut. Monatshefte*, Volume X, Number CCLIV, 1896), reports seven cases of epidemic cerebro-spinal meningitis in children from five to ten years of age, in which he employed hot baths, as recommended by Aufrecht. In five cases recovery was obtained, and two died, one of these died within forty-eight hours, the disease being of the foudroyante variety (meningitis cerebro-spinalis epidemica siderans), the other died late in the course of the disease, and in this case the bath treatment was only used during the first two weeks, after that no kind of treatment was possible. The favorable influence of the baths on the heart and nervous systems was, however, well marked, even in this case. The baths were administered in a somewhat different manner from Aufrecht's method. The patient was put into a bath of the temperature of 26 to 70° Reaumur, and gradually hot water was added until the temperature of the water reached 32° Reaumur. During the bath, the ice bag, or Leiter's coil, was applied to the head. The transportation from the bed to the bath should be conducted most carefully and as quickly as possible. If a great deal of pain is present in the spine the patient must be lifted out of the bed by means of the bedcloth on which he lies, and, with it, lowered into the bath. The head should not be touched during transportation. After the bath, the patient is wrapped into a woolen blanket, and has a light cover thrown over him; no drying or rubbing of the body is to be attempted. In this envelopment the patient is to remain an hour, when he may be removed. The time of day for the bath is unimportant, but the very early morning hours or late evening hours should not be selected.

Beside the bath it is necessary to be provided with good, cooling apparatus for the head, neck and spine. The diet should consist of nourishing meat preparations, even when diarrhea comes on. The author also ordered his patients wine and cognac (in milk), also beer, as much as they would take, and came to the conclusion that alcohol maintains its place also in this disease as a tonic and hypnotic of the first rank. The question as to the manner in which hot baths act, he was not in a position to answer, but he thought it not improbable that the hyperemia of the skin produced by the bath was followed by a diminution of blood in the brain and spinal cord, and hence the bath acted like venesection without the loss of blood from the body. Furthermore, it is reasonable to suppose that the sweating which usually follows diminishes the formation and hastens the excretion of toxins. At least it is certain that the hot bath, even in the presence of fever, does not raise the temperature of the body, but on the contrary diminishes it. In not a single case did he observe any dangerous influence of the bath on the heart's action. 'Even in a case where he had ready for instant use cognac and camphor, expecting a depressing influence from the hot bath, no bad symptoms occurred. On the contrary, his observations have satisfied him that the action on the heart is rather that of a tonic and a regulator of the heart beats. Lastly, he would recommend the use of the hot bath even in cases of cerebro-spinal meningitis in which no other benefit was to be gained than the pain-relieving and quieting results which follow.—*Pediatrics.*

MELANGE.

RETENTION OF URINE.

According to Doctor Legnen the best treatment for acute retention of the urine is that of tapping the bladder in the suprapubic region. In rare cases, he says, catheterism is impossible, and the surgeon has to choose between two alternatives, that of incising the bladder and of tapping. This last operation is without the slightest danger if done antiseptically, and if the trocar is plunged directly behind the pubis, so as to avoid the peritoneum. The incision, on the other hand, does not possess the same simplicity nor is it so benign in its consequences; it should be reserved for those cases in which other treatment was impossible or impracticable. In acute retention of individuals suffering from enlarged prostate, the trocor is very useful and may be employed several times in the twenty-four hours, after which the canal becomes generally permeable. The suprapubic incision is indicated where infection is suspected and where catheterism remains impossible. In retention by an obstacle in the urethra, stricture or rupture, external urethrotomy, resection of the stricture or suture of the rupture are the operations to be preferred. The trocar in such cases can be nothing more than a palliative. Primary cystotomy is never indicated for obstacles seated in the anterior urethra; it is quite otherwise, however, where the lesion is found in the posterior portion, as searching through the perineum is always tedious when not conducted on a director, and when the case is pressing, cystotomy affords the quickest relief by enabling the catheter to pass from behind.—*The Medical Press and Circular.*

HEREDITY AND CRIME.

THE following, taken from *The Medical Press*, compiled by Professor Belman, of the University of Bonn, relates the career of a notorious drunkard who was born in 1740 and died in 1800. Her descendants numbered 834, of whom 709 have been traced from their youth. Of these 7 were convicted of murder, 76 of other crimes, 142 were professional beggars, 64 lived on charity, and 181 women of the family led disreputable lives. The family cost the German government for maintenance and costs in the courts, almshouses, and prisons no less a sum than $1,250,000; in other words, just a fraction under $1,500 each. It would probably be difficult to find a more remarkable example than this of the evil effects of the transmission of hereditary defects.

FRUIT AS FOOD.

ARTHUR ELLIOT (*Dietetic and Hygienic Gazette*, Number XII, 1896,) says the sugar and fruit salts, the nutritive principles of fruits, are not changed by cooking. Green, unripe fruit should invariably be boiled before eating. Man cannot live on a fruit diet alone without impairment of his nutrition—a mixed diet is at all times necessary. Fruits differ in their amount of nutritive material. The banana, date, and plantain rank the highest in this respect, each containing enough nutriment to support life for a long period. The fact that many persons cannot digest bananas is due to eating them before they have thoroughly ripened. The real reason why many people cannot digest fruits is because they do not eat them at the proper time. The poorest time, says the author, is at the completion of a meal when they dilute the gastric juices and embarrass digestion. They should be eaten either at the commencement of a meal or between meals. The author summarizes a few of the uses of fruits as follows: (1) To furnish variety to the diet; (2) to relieve thirst and introduce water into the system; (3) to furnish nutriment; (4) to supply organic salts essential to proper nutrition; (5) to stimulate the kidneyes, increase the flow of urine, and lower its acidity; (6) to act as laxatives; (7) to stimulate and improve appetite and digestion; and (8) to act as antiscorbutics.—*The American Medico-Surgical Bulletin.*

THE ACTION OF LIGHT UPON PHARMACEUTICAL PRODUCTS.

STEVENS, in *The Registered Pharmacist*, advises that the following should be kept in dark, amber-colored bottles, in a cold place: Benzoic acid, dilute dydrocyanic acid, apomorphine hydrochlorate, soluble ferric phosphate, mercurous chloride, naphthol, mercuric cyanide, resorcin, santonin, physostigmine salicylate and sulphate, pyrogallol; and the following are to be kept the same, in *glass-stopper* bottles: carbolic acid and strontium iodide. Keep the following in amber-colored, glass-stopper bottles, in a cool, dark place: hydrobromic acid, hydrochloric acid, nitric acid, diluted nitro-hydrochloric acid, nitro-hydrochloric acid (vial only half-filled in the latter acid), sulphurous acid, acetic acid, amyl nitrite. Formic acid is darkened by action of light and air. Stronger orange-flower water should be kept in loose-stoppered bottles, in a dark place. The following should be kept in well-stoppered bottles, in a dark place: stronger rose water, ammonium iodide, sulphureted antimony, arsenic iodide, bismuth and ammonium citrate, terric citrate, iron and ammonium citrate, iron and ammonium tartrate, iron and potassium tartrate, iron and quinine citrate, soluble iron and quinine citrate, and iron and strychnine citrate, all quinine salts, saccharated ferrous iodide, tincture ferri chloride, chloral and chloroform, the two latter in glass-stopper bottles. Chlorine water should be made fresh, but if kept should be protected from light and air. Silver cyanide, iodide, nitrate, diluted nitrate, moulded nitrate and oxide, spirit of nitrous ether, spirit of phosphorus, should be kept in amber-colored bottles, glass-stopper, in a cool place. It is advised to keep all volatile oils in dark places. Iodoform is affected by light.

CHOLAGOGUES.

Doctor E. Stadelmann (*Berliner klin. Wochenschrift*) thus classifies the so-called cholagogues: (1) Substances having no true cholagogue action: Bicarbonate of sodium, chloride of sodium, sulphate of sodium, et cetera. (2) Drastic substances, having no assured cholagogue action and often diminishing the biliary secretion: Gamboge, jalap, aloes, scammony, senna, calomel. (3) Substances diminishing the biliary secretion more often than they increase it: Alcohol, olive oil. (4) Substances certainly diminishing the biliary secretion: Atropine, pilocarpine (?). (5) Substances having a doubtful cholagogue action: Antipyrine, acetanilid, caffeine, diuretin, santonin, Durand's remedy. (6) Substances which are cholagogue: Salicylate of sodium, bile.—*The New York Medical Record.*

PATENT-MEDICINE MAKING.

Exclusive of those connected with the advertising department, a numerous branch, and the stockholders in such of the concerns as are incorporated, ten thousand men are engaged in the patent-medicine manufactories of the United States, receiving collectively more than $4,000,000 a year in salaries and wages. There are eight hundred and fifty such manufactories, ranging in importance from those which flood the American and the foreign market with proprietary medicines, as they are technically called, down to the small laboratories or botanist shops, in which some particular herb or root is, in a grudging and primitive manner, supplied to such persons as may have heard of its efficacy. The partiality of Americans for patent medicines is well known, and doctors—who don't usually agree—agree in declaring that the true reason of the extensive use of such medicines in the United States is to be found in the fact that dyspepsia is a general ailment, and that persons suffering from dyspepsia are prone to believe that they have some other ailment. Thus they become patent-medicine patrons under conditions that recall the memorial remark of Colonel Mulberry Sellers, the sanguine speculator, who, in describing the benefits of the "Oriental Eye Water," the sale of which he believed would enrich him, declared that the more of it people used, the more of it they would need, and hence the sale once started would constantly increase. Many of the patent-medicines sold, if not, indeed, a majority of them, do not come under this description, for they are merely compounds, in pleasant form and in palatable shape, of drugs and medicines in constant use by physicians, and found efficacious in what is called general practice. Though it didn't use it, New York City now stands at the head of the cities of the United States in the manufacture of patent-medicines, with eighty-five factories, giving employment to one thousand persons at aggregate wages in excess of $700,000 a year. Philadelphia comes second, Saint Louis third, New Haven fourth, and Lowell fifth. In proportion to its population Lowell is the American city which is most deeply interested in patent-medicine manufacture. After Lowell comes Chicago, a poor sixth. It is a somewhat peculiar circumstance that though enormous quantities of patent-medicines are sold in the south, and the ingredients for their manufacture come very largely from that section, few patent-medicines are made in the south, though New Orleans and Atlanta do a little in this line. The city of Baltimore seemed likely a few years ago to attain prominence in the manufacture of patent-medicine, but recently it has fallen back on the list, while the city of Boston has been pushing steadily ahead. Providence is another New England city which is largely represented in the manufacture of patent-medicines. In New York state two other cities so represented are Buffalo and Rochester. In the west, outside of Chicago, Saint Louis and Cincinnati, the city which does the largest business in patent-medicines is Grand Rapids, Michigan, and Peoria does a little in this line, but not very much. The exportation of American patent-medicine is increasing, but the manufactures continue nevertheless to appeal, with the greatest confidence, to the home market.—*The Sun.*

PRACTICE.

ARTIFICIAL DIGESTION.

The problem of nutrition is confessedly the *bete noir* of physicians. It is not therefore strange that much attention should have been given to the development of processes by which foods may be artificially digested outside of the body, and thus prepared for immediate assimilation without taxing the weak and debilitated system with this work, which, as is well known, involves the expenditure of no little energy.

Up to the present time, such efforts have proven somewhat abortive, for the finished products are as a rule so unpalatable that few patients can take them; not at least for any considerable length of time.

Paskola is the latest claimant for favor in this field, and it seems to possess decided advantages over anything that has heretofore appeared on the market. Its basis is a pure form of artificially-digested starch to which is added two-tenths of one per cent. of absolute hydrochloric acid (thus giving it the natural acidity of the gastric juice), and a combination of proteid or albumen-digesting ferments.

It is extremely palatable; in fact, when diluted, it tastes very much like lemonade and is relished by the most delicate stomachs.

As starch is Nature's source of fat, it is not strange that clinical tests should prove that patients undergo a rapid increase in weight under the use of paskola. —*The Daily Lancet.*

STEARNS' BEEF JUICE.

Frederick Stearns & Company, of Detroit, have, after a long series of experiments, succeeded in producing a beef juice for which they claim special advantages. It contains twice as much proteid matter as any other natural beef juice on the market. In speaking of this product, *The London Lancet* of November 16, 1895, says: "When it is known that a fluid consists practically of the juice of fresh, lean, uncooked beef expressed in the cold, its value as a nutrient does not require emphasizing, for it will contain the albuminous constituents of the meat unchanged, besides also the stimulating extractive principles. This accurately describes Stearns' beef juice, which is a dark red liquid, turning semisolid on the application of heat from the coagulation of the albumen. The coagulum, which is the most important nourishing constituent, amounted at least to one-sixth of the total dry matter, the latter being equal to forty-four per cent. The mineral matter consisted, of course, principally of soluble phosphate and a not excessive quantity of common salt. Its taste is agreeably fresh and "beefy," and such that invalids would take it without reluctance. The preparation, judging from these results, should serve admirably where a vigorous nutrient is needed."

CLINICAL NOTES.

Permanent and Reliable.—A letter from Doctor Policarpo Diaz, of Guanajuato, Mexico, to Scott & Bowne, says that, in 1889, he purchased twenty bottles of Scott's emulsion. At that time he was "suffering from a terrible attack of tuberculosis." He says that he does not now have the slightest symptom of that disease, and is in the best of health. He adds that, at the time of writing, April, 1895, he has one of these twenty bottles on hand; and "although enough time has certainly elapsed for the emulsion to separate, yet it is in perfect and unchanged condition."

To Relieve Pruritus.—

℞	Listol,	ʒij.
	Acidi Borici,	℥j.
	Talcum Purificat.,	℥j.

Misce. Fiat pulver. Signa—Dust freely over affected area.

This powder is of particular value for the relief of pruritus ani and pruritus scroti, as well as to relieve the itching and burning of many lesions of the skin.

"Kola–Stearns" is a special aromatized fluid extract of fresh (undried) true African kola, and is now being offered by F. Stearns & Company as the best means for administering kola, where needed as a brain, nerve and muscle stimulant. It is the only palatable liquid preparation of fresh (undried) kola in concentrated form. Chemical and therapeutical research have demonstrated that in the fresh (undried) kola alone, is to be found its most valuable property, a glucosidal principle, called kolanin, to which its medicinal virtues are mainly due. "Kola–Stearns" exalts the intellectual faculties, removes the feeling of languor and fatigue, and aids muscular contraction. Therefore, it will prove of wonderful assistance to students, professional men, athletes and cyclists. Samples and literature may be obtained by addressing F. Stearns & Company, Detroit, Michigan.

COMMERCIAL MEMORANDA.

A YELLOW ASTER.

Now and then some man or woman with a wheel becomes so confused by its eccentric revolutions that the result is a book. Such a book is "A Yellow Aster," which pictures a beautiful girl, who, although reared in the lap of civilization, is by design reared a pagan, not only in religion, but also in other things. It is refreshing to note, however, that the "Yellow Aster" does not exist along the line of the Saint Paul & Duluth Railroad. This line, which for years has been known to the public as the Duluth Short Line, runs through a district peopled by sensible people and is patronized by sensible people. Its patronage has steadily grown until it now stands as the people's popular route between Saint Paul, Minneapolis, West Superior, Duluth, Stillwater and other prominent Northwestern points, where close connections are made at handsome terminals with trains running to all points of the compass. The latest equipment, fast trains, and smooth road-bed, convenient time cards, safe transportation, the luxuries of travel—these are some of the things which have established the Duluth Short Line so firmly as a popular favorite, while the romantic picturesqueness of the region through which the trains travel is such as to repay the tourist for the trip and impress the investor with its practical advantages. Information, circulars, maps, et cetera, may be obtained from all ticket agents, or will be cheerfully furnished, upon application, by W. A. Russell, General Passenger Agent, Saint Paul, Minneapolis.

PRACTICE.

THE THERAPEUTICS OF THE NERVOUS FORMS OF INFLUENZA.

During the influenza epidemic of last year cases in which the nervous system and especially the peripheral nerves, was involved greatly, predominated over the other types of the disease. The most prominent nervous symptoms complained of were, first, severe headache, usually of a dull, heavy character, sometimes lancinating, and sometimes attended with vertigo; physicial and mental prostration, independent of the fever, and thirdly, the profuse perspiration. Other quite constant symptoms are pains of rheumatic character, most frequently along the back, and neuralgias, especially of the supraorbital and infraorbital nerves and disturbances of the special senses. For the relief of these affections of the nervous system associated with influenza, analgesics have been commonly recommended both on theoretical and clinical grounds. In an interesting contribution to the symptomatology and therapeutics of the nervous forms of influenza, Doctor Arthur Hennig (*Munchener Wochenschr.*, Number XXXVI, 1895) states that among the antineuralgics employed by himself none have had so reliable an action as salophen, the well-known antirheumatic. It has been demonstrated that this remedy is separated into its components in the alkaline intestinal secretion, namely, into salicylate of sodium and acetylpara-amidophenol. Owing to this it has an advantage over the salicylates which are dissolved in the acid gastric juice and produce more or less severe gastric disturbances after a time; while it is superior to salol which is also decomposed in the intestinal canal by reason of its freedom from taste and odor and its complete innocuousness when properly employed. As regards dosage the author administers from 1.0 to 5.0 grammes pro die in accordance with the severity and duration of the disease and the age and individuality of the patient. Frequently a few doses of 0.5 grammes given every two hours or at shorter intervals are sufficient for the alleviation or removal of violent neuralgias or other nervous symptoms of influenza. In children it is advisable to exhibit doses of 0.25 to 0.5 grammes three to five times daily at intervals of two or three hours; in adults the double dose. As soon as the disturbances subside the quantity may be reduced, although it is judicious to continue the remedy in smaller doses several times daily for several days after the disappearance of all subjective phenomena, in consequence of which recurrences as well as severe sequelæ are often prevented. In a number of characteristic influenza cases in which other analgesics failed, salophen proved of service so that the author recommends this remedy most highly in the diverse nervous forms of this disease, the more so as it is entirely devoid of disagreeable or injurious after-effects and readily administered.

HOW TO TREAT A COUGH.

In an able article under the above heading in *The New York Medical Journal*, Edwin Geer, M. D., Physician in Charge of the City Hospital Dispensary; also Physician in Chief, Outdoor Department, Maryland Maternite Hospital, Baltimore, writes:

"The object of this brief paper is not to try to teach my colleagues how to treat a cough, but simply to state how I do it, what good results I get, and to call their attention to those lighter affections of the throat and chest the principal symptom of which is an annoying cough, for which alone we are often consulted. The patient may fear an approaching pneumonia, or be anxious because of a bad family history, or the cough may cause loss of sleep and detention from business. What shall we do for these coughs? It has been my custom for some time to treat each of the conditions after this general plan: If constipation is present, which is generally the case, I find that small doses of calomel and soda open the bowels freely, and if they do not, I follow them with a saline purgative; then I give the following:

℞ Antikamnia and codeine tablets, number xxx.
Signa—One tablet once every four hours.

"The above tablet contains four grains and three-quarters of antikamnia and a quarter of a grain of sulphate of codeine, and is given for the following reasons: The antikamnia has a marked influence over any febrile action, restores natural activity to the skin, and effectually controls any nervous element which may be in the case. The action of the codeine is equally beneficial, and in some respects enforces the action of its associate. The physiological action of codeine is known to be peculiar, in that it does not arrest secretion in the respiratory or intestinal tract, while it has marked power to control inflammation and irritation. It is not to be compared with morphine, which increases the dryness of the throat, thus often aggravating the condition, while its constipating effect is especially undesirable."

CLINICAL NOTES.

SIX HUNDRED DOLLARS IN PRIZES.

THE special attention of our readers is called to the advertisement of the Palisade Manufacturing Company with the above title on page 3 of cover in this issue. The prize contest which this well known firm announces will no doubt attract a great deal of attention, and result in the submission of many articles of merit on "The Clinical Value of Antiseptics, both Internal and External." The prizes are extremely liberal, and the well known professional and literary eminence of Doctor Frank P. Foster, the talented editor of *The New York Medical Journal*, who has kindly consented to act as judge, is a sufficient guarantee of the impartiality to be observed in the awarding of the prizes. We are assured that there is absolutely "no string" attached to the provisions of this contest, and any physician in good standing in the community is invited to compete on equal terms with every other competitor. Further particulars as to conditions, et cetera, can be obtained by addessing the above-named firm.

PEACOCK'S CHIONIA.

MY success with Peacock's chionia has been more than I expected, the patient, a lady, received more help from it than she had from all the medicine she had taken from different doctors in five or six years. I have placed great faith in Peacock's chionia and I cannot speak in too high terms of its efficacy. —S. J. Weston, M. D., Des Moines, Iowa.

PRACTICE.

EPIDEMIC INFLUENZA.

In his instructive Manual of the Practice of Medicine, just issued, Doctor George R. Lockwood, Professor in the Woman's Medical College, New York, speaks as follows with reference to the treatment of influenza:

"It certainly seems that the severity of the attack can be modified by the administration of large doses of quinine at the onset. At least twenty or thirty grains should be given within the first twenty-four hours, cinchonism being controlled by the phenacetine or by sodium bromide. Aside from this, treatment is entirely symptomatic. The headache and the pains in the bones and muscles are best relieved by repeated small doses of phenacetine preferably combined with salol (each five grains every two hours). Antipyrine and antifebrine are to be avoided if possible, because of their depressing effect. Bromides may be useful in controlling restlessness, and a hot bath followed by a ten grain dose of Dover's powder is often of great comfort. Morphine or codeine may be employed in severe cases. If headache depends upon congestion of the frontal sinuses, inhalation of steam, creosote or menthol are of service. The following prescription is most satisfactory for the purpose:

℞ Menthol, ... grains x.
Tinct. Benzoin Comp., ... ℥j.

Misce. Signa—A teaspoonful gradually added to a pitcherful of boiling water, to be inhaled three times a day.

Sleep is best procured by sulfonal, chloralamide or codia. The vomiting is to be treated by regulating the feedings, by bismuth or by morphine. Diarrhea is to be checked by opium combined with astringents. The bronchitis is to be treated after the ordinary methods by sedatives, by expectorants and by counter irritation applied to the chest.

INCREASING THE WEIGHT.

Much has been said and written about the treatment of obesity, but the poor, anemic, animated skeletons whom we see on every hand are more or less neglected. It is folly to hope that the administration of minute quantities of iron or other so-called tonics will put flesh on a patient's bones. Food is their only salvation, and if they cannot digest it in its ordinary forms, then it must be artificially digested outside of the body.

The intelligent doctor tells the man who is laboring through life with a hundred pounds of superfluous flesh to leave starchy foods out of his diet. If the advice is conscientiously followed, a marked loss of weight must ensue.

While in theory the reverse is true of a thin person, they unhappily cannot always digest starchy foods, and here it is that science has come to the rescue.

Methods for the artificial digestion of starch have long been known, but it remained for the manufacturers of paskola to give the profession a preparation which is perfectly palatable, and the use of which can therefore be indefinitely continued without offending even the most delicate stomachs.

Not alone is paskola a fattening food of exceptional value, but, containing as it does a normal proportion of hydrochloric acid and proteid or meat-digesting ferments, it aids the digestion of other foods.

Its sphere of usefulness is a broad one, for every day brings us face to face with this problem of nutrition, and paskola would appear to offer a practical solution.

THE PATHOLOGIC AND THERAPEUTIC STATUS OF DIPHTHERIA.

In an exhaustive and comprehensive article entitled "Some Points Pertaining to the Present Pathologic and Therapeutic Status of Diphtheria," Doctor I. N. Love, Professor of Clinical Medicine, Diseases of Children and Hygiene, Marion-Sims Medical College, writes: "Rest is one of the sweetest words in our language, and in the management of no disease is this more true than in diphtheria. In keeping with the experience of Doctor T. E. Murrell, Ex-Vice-president of the American Medical Association, and Doctor Pollack, of Saint Louis, one of the most experienced practitioners of our city, who found antikamnia valuable as a reliever of the pain of nocturnal earache, I have found it of great value as a sleep producer in these cases, given in doses of two and a half to five grains every two to four hours, accompanied by a judicious amount of stimulation, such as wine or toddy. There is no after depression nor have I ever found other than satisfactory results when used." Doctor Eggers, of Horton Place, also reports that, in the treatment of an attack of diphtheria he himself suffered, to relieve the pain consequent upon the injection of antitoxine-serum, which ordinarily lasts from three to four hours, one full dose of antikamnia subdued it in a few minutes. Clinical reports verify the value of codeine in combination with antikamnia in the treatment of any neuroses of the larynx, coughs, bronchial affections, la grippe and its sequelæ as well as chronic neuroses; the therapeutical value of both being enhanced by combination. The tablets of "antikamnia and codeine," containing four and three-quarters grains antikamnia and one-fourth grain codeine, meet the indications almost universally. As a pain reliever antikamnia either in powder or tablet form acts with safety, certainty, and celerity.

CLINICAL NOTES.

W. H. Gray, M. D., of Michigan City, Indiana, writes: "I have used your pineoline as a dressing to old sores and inflamed surfaces; sometimes combined with solution acid carbolic, a few drops well mixed, with fine satisfaction, it being one of the neatest and cleanest dressings I ever used with no offensive odor to the patient, or others applying it. It will speak for itself."

I am slow to give an opinion until it is justified by conviction. Continued trial of Peacock's bromides in nervous disorders where the compounds of bromine are indicated, has resulted in a full recognition of the decided superiority of your preparation over any of the bromides singly administered. In efficacy and promptness of action, regardless of idiosyncrasy and other conditions, Peacock's bromides excel in such a degree that when they are within reach I never prescribe or employ the bromides in any other form.—A. B. C. Clements, M. D., Washington, District of Columbia.

PRACTICE.

RENAL LITHIASIS.

In persons suffering from the uric acid diathesis any condition interfering with the elimination of this substance is apt to lead to its deposition in various tissues of the body, one of its favorite sites being the renal parenchyma. At first these deposits give rise to comparatively slight disturbances, the patient passes more or less gravel in the urine and perhaps complains of vague pains in the region of the kidneys. These disturbances are more pronounced at times when in consequence of errors of diet there is derangement of the functions of the digestive organs, the stomach, intestines and liver. If the uric acid deposits attain to such a size that their passage along the ureter to the bladder is attended with more or less obstruction the patient suffers from attacks of renal colic. On the other hand, if these masses are so situated in the renal structures that their removal by way of the urinary passages is rendered impossible, their presence is apt to give rise to serious changes in the kidney and necessitate the performance of several surgical operations. Hence in the earlier stages of renal lithiasis the chief aims of treatment are to prevent the excessive production of uric acid and to keep it soluble and favor its elimination from the system. The first object can be secured, to a certain extent at least, by strict regulation of the diet and by the removal of any existing disorders of the digestive organs, as the relief of constipation, torpor of the liver, et cetera. Of equal, if not greater importance, is it to prevent the deposition of the uric acid by keeping it constantly in a soluble state. For this purpose the patient should take an abundance of water so as to flush out the kidneys, together with some uric acid solvent as piperazine. Careful experiments made by various observers have conclusively demonstrated that this substance has much more marked solvent action on uric acid than the lithia salts which have been especially employed for this purpose. The administration of piperazine in the above class of cases is often promptly followed by a discharge of gravel and a subsidence of the existing disturbances, and according to many authors it is the best means at hand for the prevention and relief of renal colic. Piperazine–Bayer should be employed in daily amounts of fifteen to twenty grains, administered in an abundance of plain or carbonated water.

THE TREATMENT OF MELANCHOLIA.

"The question of treatment," says Doctor W. B. Pritchard in *The New York Polyclinic*, March, 1896, "is one of peculiar interest and importance to the general practitioner, chiefly for the reason that if the domestic situation can be controlled by the family physician, the patient should most emphatically be treated at home. Nearly all such patients are fully and appreciatively cognizant of their surroundings, which fact is a sufficient explanation of the harm done by incarceration in an institution with association with others insane. In treating these cases at home two conditions should be demanded by the attending physician positively and imperatively. First, absolute control over the patient's personal and domestic life; and, secondly, the presence constantly of an attendant or nurse, preferably one with special training. As a rule the patient should be isolated from the rest of the family, leaving the personal influence and domination of the physician and nurse free from interference. The patient's room should be changed both in location and furnishings. In the debilitated cases partial enforced rest should be obtained by requiring the patient to lie abed until 10, 11 or 12 o'clock. The diet should be nutritious and quite sufficient. If, through delusions or in an effort to commit suicide in this way, the patient refuses to eat, forced feeding should be resorted to by rectum or mouth, or if resistance is excessive by the catheter introduced through the nose, down the throat. The drug treatment resolves itself into three indications: The relief of insomnia, the correction of visceral derangement and disturbed secretions and the relief of psychic pain. For the insomnia we have a large and satisfactory supply of agents. I do not believe it is ever wise to trust to nature or the so-called simple remedies for the relief of this insomnia, but that some reliable hypnotic should be used at once—I prefer above all others trional. It is free from injurious or disagreeable effect or action and is more certainly reliable than any other. The dose should be from ten to twenty grains in water, shortly before retiring. It may be combined with an equal quantity of sodium or potassium bromide with better effect occasionally. It does not seem to lose its hypnotic action even after prolonged continuance nor does it tend to establish any drug habit. Occasionally the sleep induced from a full dose is alarmingly prolonged, but this is a rare idiosyncrasy of no harmful significance." In the remainder of this excellent article Doctor Pritchard calls attention to the importance of removing antiinfection of the gastrointestinal tract by the administration of laxatives (cascara sagrada, decimal doses of calomel) and intestinal antiseptics (subgallate of bismuth, salol, et cetera) and of relieving physical pain by opium in the form of aqueous extract in doses of one-eighth to one-third grain three or four times daily.

A REMEDY FOR RHEUMATISM.

THE following is an extract from an article on "Rheumatism—Its Pathology and Modern Treatment," read before the Lucas County Medical Association, December 14, 1895, by R. H. Timpany, M. D., of Toledo, Ohio:

"In summing up the testimony, it is clear to be seen that the salicylates are a most valuable remedy in acute rheumatism as well as some of the chronic forms. As a matter of fact, the beneficial results obtained are something like 71.8 per cent. In two cases, one of which was acute and the other that might be classified in the subacute stage, I received the most gratifying results from the preparation known as tongaline. There seems to be in this preparation just enough of the salicylates to have the desired effect upon the disease proper and yet produce little effect on the circulation. It is a well-known fact that when the salicylates are thrown into the veins, the effect is to increase the energy of the systaltic contractions, the number of pulsations and the blood pressure. It seems that under the influence of increasing doses, the vessels dilate, the blood pressure falls and finally the heart is arrested. In the resume of the use of salicylates I am led to believe that the heart lesions which follow rheumatism can be traced more pointedly to the toxic doses of the salicylates than the disease itself. But the preparations, which I have heretofore mentioned, combined with its other ingredients, fail to produce those distressing and disagreeable features which doubtless many of you have encountered."—*The American Medical Compend.*

PRACTICE.

THE VALUE OF BARLEY.

We think few medical men or laymen know the value of barley as the old Romans understood it when their gladiators trained on barley bread. It possesses rare nutritive, emollient and tonic value, and as a diuretic, is not approached by any grain. A unique and long-needed product from the heart of this grain has lately been placed on the market, called "Barley Crystals," which seems destined to become a very efficient aid to the physician in the treatment of different stomach and intestinal ailments, and Bright's disease. It is also a very agreeable and attractive breakfast dish for the sick or well.

Write Farwell & Rhines, Watertown, New York, makers and proprietors of this and valuable sanitary flours for dyspepsia, diabetes, constipation and obesity, and they will send you descriptive pamphlet and free baking samples, if desired.

A CARD.

We have frequently received communications from physicians asking us to give the digestive powers of seng in numerals.

As seng is not an artificial digestant, but a digestive secernent, this is, of course, impossible.

We therefore desire to correct this erroneous impression with the statement that seng, through its secernent action, encourages the flow of nature's own pepsin when taken into the stomach, and thus does not dissolve the food *per se*.

The physiological difference between the pepsin and seng treatment is that the former is an artificial treatment, and a makeshift at best, whilst the latter is a restorer of the natural functions of digestion.

Sultan Drug Company.

THE DAY OF KOLA.

We have recently received from Messrs. Johnson & Johnson a handsomely illustrated and elegantly printed monograph called "Kola Illustrated." The following extract from the preface explains its scope:

"The interest shown by the medical profession in our studies of kola has exhausted two very large editions of our monograph 'Kola Illustrated.'

"This brochure (the third issued by us) has been prepared especially for the busy physician. It contains a summary of present information regarding this valuable drug.

"While laying no claim to priority in the discovery of kola, it has been well attested that our work, beginning in the habitat of the drug, has been the most thorough, and greatly in advance of anything previously attempted."

The preparations of Johnson & Johnson are made from cultivated West India kola upon which they have expended considerable research. They state:

"The selection of West India kola was based upon the fact that in the West Indies kola has had the advantages of cultivation under favorable conditions for several centuries. Only the true kola has been introduced there. But more than all, the selection of the drug, the preparation and handling could be done by skilled employees. The delicate and all important constituents of kola could be preserved from change, and preparations of kola placed before the medical profession that would assure the best possible results."

A copy of this work may be had of the publishers.

CLINICAL NOTES.

In reporting the case of a woman suffering from neoplasm in the stomach, Doctor Ernesto Costa, of Alagna, Italy, says: "One can easily imagine the intense pain which entirely prevented her sleeping. I tried chloral and sulfonal, and although the latter answered fairly well for a time, it soon became necessary to discontinue it. I then administered bromidia with the following results: (1) It produced refreshing sleep. (2) It soothed the pain, and thus rendered alimentation possible. (3) Although given in frequent, and sometimes in tablespoonful doses, it never produced any nervous or cardiac disturbance."

For Hemorrhoids.—

℞	Ext. Hamamelidis Powd.,	℈j.
	Pulv. Opii,	gr. vj.
	Listol,	ʒss.
	Ol. theobrom.,	q. s.

Misce. In suppositories (rectal) number twelve and divide. Signa—Insert one at bedtime, or oftener if required.

These suppositories afford prompt relief to bleeding, irritated, and inflamed piles.

Battle & Company, Saint Louis: Some time ago you sent me specimens of your preparations of bromidia, papine aud iodia. Unlike many who send out specimens you sent an amount large enough to really make a trial with. I had used the first two named a little, but having them more forcibly brought to mind, and recognizing the fact that I had them on trial, I watched their action more carefully. I can say that they are both elegant and health-bearing. Bromidia I used on a man verging on mania a potu, papine on a nervous typhoid woman, and iodia on a young man, who had carried boils for three years as the result of ivy poisoning. The preparations were a decided success in every instance. —Yours truly, E. C. Adams, M. D., Watertown, South Dakota.

Chronic Objectors.—There regularly appears in each congress at Washington about one man who gets the reputation of being a "chronic objector." He appears to get so out of sorts with everybody that he cannot help but object. A few persons refused to believe that paskola had any food value; therefore the Predigested Food Company went to work and brought the most indisputable proof that, as a food, it should be rated high. Then others objected because they did not believe it had any digestive properties; therefore, again, the paskola people published careful directions how any one could easily test this question for himself. They will gladly send any of our readers these directions, upon request. Still other objectors declared that the doctors were opposed to it; when the paskola people published a pamphlet containing three hundred and fifty testimonials from physicians who had used their product and were greatly pleased with it. And now, we are informed, they have over six hundred additional testimonials to the above. The chronic objector must step one side.

PRACTICE.

HYDROZONE IN PURULENT OTITIS MEDIA: A REPORT OF A CASE SUPPOSED TO INVOLVE INFLAMMATION OF THE MASTOID.

By WILLIAM CLARENCE BOTELER, M. D., Kansas City, Missouri.

On November 4, 1895, I was consulted at my office by Robert P., aged twenty-four years; occupation, laborer in the Armour Packing Company. The patient complained that for about four weeks he had been suffering from intense pain in his left ear, making it impossible for him to sleep at night, or rest during the day. The pain was so severe that at times he apparently lost consciousness and it seemed to extend through his entire brain. Upon inspection, the man's face was found terribly deformed; an edematous swelling the size of one-half of an ordinary loaf of baker's bread occupied the usual location of the ear and the surrounding muscles. The auricle of the ear was almost buried in edematous tissue; upon palpation, the part was found intensely tender, and deep pressure evoked expressions of excruciating pain. The integument and subcutaneous tissue were thoroughly infiltrated. Ichorous, fetid pus was slowly exuding from an almost imperceptible meatus. The patient expressed feelings of chilliness, showing a possible septic contamination of his system. Every indication and sign pointed to possible suppuration of the mastoid cells—tenderness upon pressure over the mastoid being very marked. Efforts to localize the tenderness, whether in external meatus or mastoid, for discriminating diagnosis, were unsatisfactory. I concluded to withhold a positive diagnosis as to whether the condition was purulent otitis media or suppurative inflammation of the mastoid, and used tentative treatment for a short while.. I immediately placed the patient under heroic doses of elixir of the six iodides internally. After laborious effort I succeeded in separating the edematous tissue sufficiently to admit the introduction of a small Eustachian catheter into the external meatus. Through this, with a small hard rubber syringe, I injected four times daily about one-half an ounce of hydrozone, allowing it later to drain away, advising hot fomentations. The patient was confined to his bed and the best possible hygienic surroundings provided. In twenty-four hours after the treatment was commenced, the intensity of the odor, amount and character of the discharge had manifestly lessened, the swelling was reducing and the patient feeling better. The edema being lessened, the aperture was enlarged. I now recommended the injection of hydrozone through a catheter of larger calibre, every hour, requiring the head to be kept turned to the opposite side for ten minutes to allow the percolation of the hydrozone as deeply as possible into the middle ear, before reversing the position to allow drainage. We continued this treatment for a week, the man's recovery progressing with remarkable rapidity, his pain and the constitutional symptoms having disappeared about the third day. At the end of eight days the swelling had entirely disappeared, his features were again normal, and he expressed himself as perfectly well. An examination showed a circular perforation in the ear drum the size of a shot, proving that the case had been one of purulent otitis media, with septic contamination of the patient's system, and infiltration of the surrounding cutaneous tissues. Small incisions were made at two different places to permit the exit of pus from the integument. The mastoid was found not involved. The rapidity with which the disease yielded after the introduction of hydrozone through the catheter into the middle ear impressed me with the wonderful value of the preparation; for, struggling with such cases during a practice of seventeen years, I have never seen its efficiency equalled by any medicinal or operative procedures.—*The Medical Bulletin.*

THE IMPORTANCE OF STARCH AS AN ARTICLE OF HUMAN FOOD.

SIR WILLIAM ROBERTS, M. D., F. R. S., calls attention to the importance of starch as an article of human food—an importance which has scarcely been duly recognized. He says that it is probably not too much to say that fully two-thirds of the food of mankind consists of starch. Taking this fact into consideration, it is not to be wondered at that the profession view with alarm the increasing number of people that cannot eat starchy food on account of a deficiency of amylolytic ferment in the digestive juices of the alimentary canal. This has given rise to an enormous demand for diastatic ferments as artificial digestors. The latest of these is "Diastase—Stearns," which consists of a high grade of pancreatic diastase taken from the pancreas of the hog by a new and improved process. The manufacturers, Messrs. Frederick Stearns & Company, of Detroit, Michigan, offer to send literature and samples to any physician on request.

CLINICAL NOTES.

PNEUMONIA.—Many cases diagnosed as phthisis are in fact chronic pneumonia and may be greatly improved and sometimes cured by Stearns' wine of cod-liver oil with peptonate of iron, in connection with proper diet and hygiene.

PEACOCK'S chionia has acted so nicely in my hands that I am constantly prescribing it in cases of hepatic torpor, biliousness, and all diseases caused by a deranged hepatic condition.—Arthur W. Johnson, M. D., Mechanicsville, New York.

COMMERCIAL MEMORANDA.

THE broad gauge character of the Northern Pacific Railroad and its officials is shown in the way it goes about preparing its tourist literature. Each year it issues a new edition of its "Wonderland" book, which is rewritten and contains entirely fresh and original matter. Mr. Chas. S. Fee, the general passenger agent, believes in letting people know what a great country they have out there, and Mr. Wheeler, who writes these books, delights in hunting out new places and going through new experiences for the public's benefit, even at the risk of his neck. For instance, in 1894 he climbed Mt. Rainier, on the Pacific Coast, between 14,000 and 15,000 feet high and related the story of the ascent in Sketches of Wonderland published in 1895. In 1895 he made a terrific climb in the Bitter Root Range in Montana, to hunt wild goats so that the sportsmen of the land might know where to go for such game. That a railroad company is ready to bear the heavy expense of such trips and a man is willing to make them for such purposes, is evidence that the books will be read as we well know these are. Send six cents in stamps to Mr. Chas. S. Fee, Saint Paul, Minnesota, for Wonderland '96, and enjoy it as we have.

PRACTICE.

DIGESTIVE DISORDERS OF CHILDREN.

THE value of listerine in those digestive disorders of childhood, which lead to what is commonly called cholera infantum, can scarcely be overrated. A teaspoonful of listerine administered per oris has been known to dissipate the most alarming symptoms, cutting short the attack and apparently saving life. A good way is to begin something like this: Calomel and chlorate of potash each one grain, to be rubbed well together and to be divided into ten powders, one to be given every five minutes until vomiting ceases and the nature of the stools have been changed; then commence and give teaspoonful doses of listerine every four hours until convalescence.—*Medical Progress.*

SOLID FACTS.

D. W. BORDER, M. D., of Kearneysville, West Virginia, writes: I have two patients taking phytoline (Walker) and they are being reduced from ten to twenty pounds monthly. They are much pleased with the results. One weighed 240 and the other 300 pounds. The latter now tips the beam at 250. This patient had fatty degeneration of the heart prior to taking phytoline, was expected to die daily from heart failure. She had an attack of syncope every few hours; would become unconscious for an hour at a time, extremities cold, skin covered with clammy sweat. After the first dose of phytoline she had no more attacks. She has lost fifty pounds; is stronger, cheerful and goes anywhere, and can do considerable housework, whereas before this she was perfectly helpless, a burden to her family and not expected to live from one day to another. These are solid facts and can be fully substantiated.

THE EFFECTS OF KOLA.

HEADQUARTERS MICHIGAN MILITARY ACADEMY,
Orchard Lake, Michigan, June 2, 1896.

MESSRS. F. STEARNS & COMPANY, DETROIT, MICHIGAN.

GENTLEMEN:—I have the honor to report for your information some observations in regard to the effect of the kola nut and the liquid preparation (kola-Stearns) furnished by you for a forced march by a company of cadets from the Michigan Military Academy at Orchard Lake, Michigan, to Detroit, Michigan, on Saturday, May 23, 1896.

A company of forty-one cadets from the academy left Orchard Lake at 4:52 A. M. and reached the Russell House, Detroit, at 12:05 P. M., being seven hours and thirteen minutes marching the entire distance of twenty-eight miles, including rests and twenty-five minutes for lunch.

The actual marching time was six hours and twelve minutes, and the distance as twice measured by a cyclometer is twenty-eight and seven one-hundredths miles, or at the rate of four and fifty-three one-hundredths miles per hour while marching—a very remarkable record.

Before starting I gave to one-half of the company the kola nut; to the other half the liquid preparation (kola-Stearns). I am convinced that the effect of the nut and your liquid preparation is to stimulate the muscles and permit of sustained exertion, while it allays thirst and hunger. The company felt comparatively well after the trip with the exception of some stiffness and sore feet; but they soon recuperated, and no protracted effects of the long march were noticeable.

This was my first experience with the kola, and while I could not observe its effects on individuals as closely as I desired, I am of the opinion that it will find favor with those undergoing great physical exertion. Yours truly, Fred A. Smith, captain Twelfth Infantry, Commandant of Cadets.

COMMERCIAL MEMORANDA.

LI HUNG CHANG.

FIRST-CLASS STEAMBOAT SERVICE BETWEEN DETROIT AND CLEVELAND, AND CLEVELAND, PUT-IN-BAY AND TOLEDO.—Detroit and Cleveland floating palaces are now running daily between Detroit and Cleveland, having on May 1st commenced to run daily between Cleveland, Put-in-Bay and Toledo. If you are traveling between the above points, take advantage of a water trip and save money. Spend your vacation on the great lakes. Send for illustrated pamphlet. Address, A. A. Schantz, G. P. A., Detroit, Michigan.

PNEUMATIC TRUSS PADS.—Those who are obliged to wear trusses have suffered from pads that are supposed to hold up the ruptured parts, and to alleviate the pain thus caused, hard and soft pads have been devised and all proven more or less unsatisfactory. A Pneumatic Truss Pad that is non-collapsible has been invented by G. W. Flavell and can be used on any truss. It has been found to correct all the difficulties of the old pads and gives instant relief. One of the new pads should be in every physician's office, and a sample can be obtained at the nominal price of fifty cents, from G. W. Flavell & Brother, 1005 Spring Garden Street, Philadelphia, Pennsylvania.

TIMES have been pretty hard with Li Hung Chang, who has been held responsible by an uncivilized ruler for failure to conquer civilized methods. First he lost his yellow jacket, then his three-eyed, oreide peacock feather, and now he stands a chance of being robbed of his meal ticket. If the Chinese understood civilization they would know better; but what can be expected of a nation which prefers a swinging palanquin to a sumptuous, palatial railway coach? The Duluth Short Line, as the Saint Paul & Duluth Railroad is generally known, with its luxurious trains, its speedy runs, its fine terminals, would be a revelation to the slow-going Chinese. These things have made it the people's popular route between Saint Paul, Minneapolis, Duluth, West Superior, Stillwater and other points, and as such it has maintained its hold upon the traveling public for years. Always in line with the times, it provides the latest and best equipment in the way of coaches, chair cars and sleepers; always alive to the ease, comfort and convenience of its patrons, it maintains an excellent road-bed, over which its fast trains run at convenient hours. Moreover, it runs through the most picturesque and prosperous portion of the Northwest, attractive to the sightseer, the homeseeker and the investor. Ticket agents will always cheerfully furnish maps, circulars and information, or it may be obtained by writing direct to W. A. Russell, General Passenger Agent, Saint Paul, Minnesota.

PRACTICE.

CHOLERA INFANTUM.

A COMPLAINT peculiar to infantile life, too well known to need further description. I have been requested to give my treatment for this scourge of the nursery. I will not stop to give its pathology or morbid anatomy. What the profession needs is the simplest and mildest treatment that will relieve the little sufferers in the shortest time; one of which, at least, I hope to give.

The first five years I practiced, I treated these cases as I had learned to from the books and lectures. When my little patients died I wondered why they did not get well, for I knew my treatment was orthodox. When a poor, little emaciated one lingered through the summer into autumn, and finally got well, I knew it was despite both disease and treatment.

Among my patients was our own little Ruby, a bright, sweet darling of fourteen months, stricken July 2. I exhausted the remedies laid down in the books and those in my memoranda taken down at college, then called to my assistance the ablest physicians available. They said I had done all they could do, and offered nothing new. One, a diplomat, said he had obtained the best results, in such cases, from the use of Mrs. Winslow's soothing syrup, advised me to try it, and went away. In my despair, I cried out, "Is this all?" Is this the end of all hope of assistance, in this hour of my great distress?

July 28th she ceased to be. We laid her away, and might well have written on her little monument, whose spire points heavenward, "Died early, because they knew not what to do."

Then I began to inquire of every doctor I met: What is your treatment for cholera infantum or summer complaint in children? They replied: Opium, morphine, laudanum, paregoric, Doveri, cinnamon, cloves, allspice, nutmeg, kino, blackberry-root tea, white oak bark, raspberry leaf—the catalogue of astringents—made into some form of powder, decoction or syrup. The same old, old treatment that has sent, and is still sending, multiplied thousands of lovely, innocent children to premature graves, that ought to be saved; and many of them would get well if they never saw a doctor, or rather, if a doctor never saw them. Hard words to say! but I have been over the battle grounds; I have witnessed the last struggles; I have heard the weeping of mothers and friends, who anxiously watched for the last breath.

I have paid dearly for my knowledge. I am still in a position to look over the field, read the results, and know whereof I speak. I had tested the treatments laid down in the standard works, and those given me by my teachers, and found them disastrous failures. I had applied to professional gentlemen with whom I met, and some of them appeared to think they had about reached the top round, and, from them, learned nothing new under the sun. I was then, comparatively, a young man. I determined to pull out of the rut made by that old professional cart that went out from Philadelphia over one hundred years ago, and, if possible, blaze a way to the goal of my ambition, to relieve and save these little sufferers.

Under astringents, I found the inner coating of the stomach wrinkled and hard, like that of chicken's gizzard; the small intestines the same, with occasional short spaces distended with gas. No digestion, absorption or assimilation

could take place under such conditions. (If you will cut down here after death, gentlemen, you will find, after using your puckering treatment, a similar condition).

I began to think for myself: There is evidence of irritation here, manifest at both ends of the line. First, by the vomiting, and second, the diarrhea. What then, are the indications?

The answer is plain. First, control the irritation, and second, remove the cause. To control vomiting, one-eighth grain tablet of calomel every hour until four are taken. Follow with teaspoonful doses of castor oil, or pure olive oil, in which is mixed three to five drops of Battle & Company's bromidia, every two hours, until it operates on bowels, and be sure that it *does operate, too.*

Then give every two or three hours from half to a teaspoonful, according to age and emergency, the following:

℞	Aquæ Calcis,	℥i.
	Mistura Cretæ,	℥i.
	Syrup Acaciæ,	℥i.
	Bromidia,	℥ss.
	Bismuth Sub Nit.,	ʒiss.

Misce. Signa—Shake well before using.

Repeat the oil every morning *till it operates*, and follow it as before. If the bromidia in this formula is not sufficient to insure quiet and sleep I give enough of it in addition till it does, always properly diluted. In extreme bad cases, with "brain symptoms," I depend entirely on bromidia, and it has never failed me. I have given it in half teaspoonful doses every hour till the desired effect, with no unpleasant results.

Observe proper rules of feeding and bathing and the little patient is usually all right in a few days. Since I have adopted and followed this course, now about twenty-five years, I have not lost a case of cholera infantum or summer diarrhea, and my records will show that I have treated probably as many as any one in the same section of country.

I want to say here, that I have saved the lives of more children, of all ages, with bromidia, than any other remedy I have ever used, and I have used it since it was first introduced. I would no more think of going among the little ones without a bottle of it than I would of going among the "Haw-eaters" of the Missouri Valley, without a bottle of quinine.

When doctors learn that medicines never cure any disease, but may only remove the cause, that the system may restore itself, then there will be a great revolution in our medical armamentarium, and the manner of using, to obtain the desired results.—J. M. Duncan, M. D., Kansas City, Missouri, in *The Medical Brief*, September 1895.

CLINICAL NOTES.

I AM not in the habit of giving testimonials and certainly would not do so until I had given the remedy a thorough and satisfactory trial. I have used seng since first placed on the market and in no case has it failed me. It is truly a physician's friend in all forms of indigestion and malnutrition, and especially indicated after malarial or typhoid fevers, malarial dyspepsia, and irritable stomach in pregnancy.—O. M. Brown, M. D., Hockley, Texas.

PRACTICE.

THE TREATMENT OF NEURALGIC AND RHEUMATIC AFFECTIONS.

In spite of extensive researches into the functions of the nervous system, we have not yet succeeded in obtaining precise and certain data concerning neuralgia. Austie thus defines neuralgia:

"A disease of the nervous system manifesting itself by pains which appear to follow the course of certain nerves, ramifying sometimes into a few, sometimes into all the terminal branches of those nerves." What is of importance for us to know from its bearing on treatment, is the etiology and pathology of this affection. In order that the functions of the nervous system may be normally performed two conditions must exist, namely:

(1) The integrity of the nervous system itself.
(2) The integrity of the circulatory system.

Another affection whose primal cause is often a matter of as much doubt as is that of neuralgia is chronic rheumatism. This is a term which is loosely applied to many ailments not really of rheumatic origin. Almost any obscure and obstinate pain which is not traceable to some other agency is apt to be attributed to chronic rheumatism. Under this head, then, there come to be ranked many aches and ailments which not being of rheumatic origin have no claim to its title. Chronic rheumatism properly so called is a milder form of the subacute variety in which there is not sufficient local inflammation to prostrate the patient or to raise the temperature. Just as the acute runs into the subacute so the subacute runs into the chronic by the insensible gradations. It also exists independently of them. The malady is characterized by the occurrence of pains obstinate in nature, and sometimes shifting in character, affecting the joints, muscles and fibrous capsules. The affected parts may be somewhat tender to the touch, but are not, as a rule distinctly swollen. The pain is increased by damp and cold. It often disapears in fair and returns in wet weather. It is a troublesome ailment which frequently lasts off and on for months, even years. During its continuance there is often laid the foundation of future cardiac troubles. In the age, in the personal and family history of the patient, in the shifting character of the pains, and in the occasional slight rise of the temperature we have the best means of distinguishing true chronic rheumatism from the other ailments, gouty, arthritic and neuralgic, with which it is often confounded. The treatment of neuralgic and rheumatic affections is both constitutional and local. For some time now I have been using the tongaline preparations in the treatment of these maladies and the results so far have been most gratifying.—D. S. Maddox M. D.

"TURN THE RASCALS OUT."

It is to be regretted that any firm of manufacturing chemists whose methods and dealings with the drug trade have always been fair and considerate should find it necessary to protect themselves against the unprincipled substituter, as explained elsewhere in this issue. It is hard to believe the testimony which Fairchild Brothers & Foster have gathered against retail druggists, who have substituted other preparations when Fairchild's was distinctly ordered by physicians. We fail to comprehend what a druggist is thinking of when he permits such practices behind his prescription counter. Where is the profession of pharmacy drifting to if it has gotten to that point that a physician cannot depend upon a druggist filling his prescriptions with what is ordered? We should discredit these reports if they came from a less responsible source. Such practice if continued will work untold injury to the credit and standing of the entire pharmaceutical profession. Physicians are constantly claiming that one of the principal reasons why they handle their own medicines is that they are then sure of what they are administering. Any such wholesale accusation against the integrity of druggists is as unjust as it is untrue. There are thousands of conscientious, upright, honorable pharmacists, who would no more think of substituting in a prescription than they would of trying to pass a counterfeit bill. It is unfortunate that reflection must be cast upon these honest druggists by the acts of their unscrupulous brothers, but all of this hue and cry on the part of manufacturers about substituting cannot be ignored. Where there is so much smoke there must be some fire. Fairchild Brothers & Foster, by their action, place the charge where it belongs and this cannot fail to benefit honest dealers.

Every honest druggist owes it to himself and his profession to speak plainly on this subject. He should adopt the most strict rules for his own establishment; improve every opportunity to condemn the practice of substituting, and see that resolutions to this effect are passed by his local, state and national associations. Each druggist should make it a point to give his physicians and his customers to understand that when a prescription comes into his establishment it is filled with exactly what it calls for. There can be no middle ground, no compromise, no question on this point. Physicians who prescribe them and the manufacturers who make the goods must have no good cause for such complaints. The honor of the drug trade demands that this stigma be removed. It is not a question of dollars and cents alone, but professional honor is at stake, and we know that every honest pharmacist will join with us in the statement that the druggist who substitutes in his prescriptions is a disgrace to his profession.

CLINICAL NOTES.

THERE is no opiate that serves the purpose that does papine. Bromidia speaks for itself. Iodia is an alterative, unsurpassed in its merits. I prescribe these remedies, and specify Battle & Company because they are so well prepared that I think no drug store or prescriptionist capable of combining their ingredients so nicely, so accurately, and all considered so reliably as they are coming from their laboratory.—J. H. Giles, M. D., of West Nashville, Tennessee.

CHEMICAL research proves that kola contains a large percentage of caffeine (the active principle of tea and coffee), also theobromine, the stimulating principle of cacao. But not to these alone is its remarkable virtue to be credited, as further investigation proves that the fresh (undried) kola nut contains a peculiar active principle (glucoside) found in no other drug, to which the name of kolanin has been given. It is now definitely determined that to this peculiar principle, which is found abundantly in the fresh nut, is mainly due the marvelous action on the human organism, as in the drying of such kola nuts as are generally imported to this country this most valuable principle is partially, if not wholly, decomposed into caffeine. F. Stearns & Company, of Detroit, Michigan, were the first manufacturing pharmacists to take advantage of the knowledge of this fact, and they have prepared a delicious wine of kola, to which they have given the fanciful title of "kolavin" to distinguish their product from similar preparations which may in time appear. Kolavin is made from fresh (undried) kola nuts, each tablespoonful dose representing thirty grains of the fresh nuts. It is palatable and delicious, and highly recommended in the treatment of nervous exhaustion, atonic dyspepsia, melancholia, various diseases of the heart, asthma, sick headache, sea-sickness, chronic alcoholism, et cetera. Physicians who desire to test this new product can obtain samples of "kolavin" and literature on kola by making application to F. Stearns & Company.

COMMERCIAL MEMORANDA.

HOME SEEKERS EXCURSIONS TO VIRGINIA AT LOW RATES.—Persons wishing to secure a home in the sunny south, "near the sea" at a small cost can do so by joining the Soldier Colony, on the James River, Williamsburg, Virginia. For full particulars address, C. H. Bovee, General Land and Excursion Agent, Chesapeake and Ohio Railway, Coldwater, Michigan.

PRACTICE.

INDIGESTION—ERUCTATIONS—DYSPNEA.

Doctor Alfred E. Meyer says he has been using Maltine with Wine of Pepsin at the New York Polyclinic, and also at the West Side German Dispensary in his gynecological clinic with signal advantage with women who are suffering from chronic indigestion, and he also gave it a trial in his private practice. One patient, a lady who had for years had frequent attacks of indigestion, received so much benefit from its use that he decided to report the case.

The attacks usually came on about an hour after eating, the symptoms being great distention of the abdomen and a feeling of soreness and dyspnea. The attack usually lasted from one to two hours. She had been put on various methods of treatment, not only on different preparations of pepsin and pancreatin, but also on dietetic treatment, without any marked or permanent benefit. After beginning the use of "Maltine with Wine of Pepsin", a small wineglassful after each meal, she did not have another attack. The remedy was continued and there appears to have been an entire mitigation of the disagreeable condition under which she had labored for so long, and this too without any special reference as to change of diet. It was noticed that in taking a dose at the begining of the treatment there were repeated eructations of gas and uncomfortable symptoms were relieved in a very short time.

Dr. Meyer says that he thinks that the combination of "Maltine with Wine of Pepsin" is a very happy one.

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Another affection whose primal cause is often a matter of as much doubt as is that of neuralgia, is chronic rheumatism. This is a term which is loosely applied to many ailments not merely of rheumatic origin. Almost any obscure and obstinate pain which is not traceable to some other agency is apt to be attributed to chronic rheumatism. Under this head then there come to be ranked many aches and ailments which not being of rheumatic origin have no claim to its title. Chronic rheumatism properly so-called is a milder form of the subacute variety in which there is not sufficient local inflammation to prostrate the patient or raise the temperature. Just as the acute runs into the subacute so the subacute runs into the chronic by the insensible gradations. It also exists independently of them. The malady is characterized by the occurrence of pains obstinate in nature, and sometimes shifting in character, affecting the joints, muscles and fibrous capsules. The affected parts may be somewhat tender to the touch, but are not, as a rule, distinctly swollen. The pain is increased by damp and cold. It often disappears in fair and returns in wet weather. It is a troublesome ailment which frequently lasts off and on for months, even years. During its continuance there is often laid the foundation of future cardiac troubles. In the age, in the personal and family history of the patient, in the shifting character of the pains, and in the occasional slight rise of the temperature we have the best means of distinguishing true chronic rheumatism from the other ailments, gouty, arthritic and neuralgic with which it is often confounded. The treatment of neuralgic and rheumatic affections is both constitutional and local. For some time now I have been using the tongaline preparations in the treatment of these maladies and the results so far have been most gratifying.—D. S. Maddox, M. D., in *The Medical Summary.*

PAIN RELIEVED WITH UTMOST SAFETY.

ALBERT M. WILLIAMS, A. M., M. D., of Bradford, Pennsylvania, says: "I have used antikamnia in my practice since its first introduction and used it extensively. At first I was a little cautious and a little apprehensive, and rarely ventured on larger doses than five grains; but for several years I have given it in ten and fifteen-grain doses to adults, and when needed, repeating every hour or two hours. I have rarely been disappointed in controlling pain, if the pain was of a character to be controlled by medicine. In severe neuralgias or any severe form of pain, my method is to prescribe ten grains to be given every hour until the pain ceases. I seldom use morphia or opium in any form. I have seen so many unfortunate victims of the opium habit that I shun its use, and antikamnia is my sheet anchor. The effects of opium and its alkaloids too, are most disagreeable to many people. I always suffered untold misery when I had taken even a small dose of morphia, itching and nausea especially continuing for about two days. There is none of this following the use of antikamnia, and I have never heard of a victim of the antikamnia habit. I have yet to see the first case where any alarming symptoms have followed its administration. I have for a long time been in the habit of prescribing it in a little larger doses than are recommended and any bad results from its use must be due to some idiosyncrasy on the part of the patient."

CLINICAL NOTES.

I AM pleased to say that the most excellent preparation, seng, has given me complete satisfaction. I can sincerely recommend it in all cases where such a delightful as well as efficacious remedy is indicated. It will afford me pleasure to speak of its merits on all suitable occasions.—George W. Babcock, M. D., of Chelsea, Massachusetts.

COMMERCIAL MEMORANDA.

A GREAT deal has been written about "ships that pass in the night," and a very ordinary book bearing that title seems to have caught the popular fancy; but as much sentiment may attach to trains that pass in the night. They are freighted with human beings, each of whom, wrapped in slumber, represents an individual mystery. There are many such, especially on the Saint Paul & Duluth Railroad, for the Duluth Short Line, as this route is more generally known all over the country, is the people's popular short line between the twin cities and the head of the lakes, and carries thousands of patrons between Saint Paul, Minneapolis, Duluth, West Superior and other northwestern cities, where, at the finest of terminals, close connections are made with trains running in all directions. The Duluth Short Line's trains are always made up of the latest and finest equipment, and run swiftly at hours convenient to the general public, the journey being comfortable, almost luxurious. The route lies through a picturesque region, where there are fine opportunities for investment, so that the Saint Paul & Duluth Railroad enjoys deserved popularity by reason of its facilities, service and location. Maps, circulars and information may be obtained of ticket agents or from W. A. Russell, General Passenger Agent, Saint Paul, Minnesota.

PRACTICE.

EUROPEAN ENDORSEMENTS.

THE *London Lancet* of March 28, 1896, says editorially:—"Antikamnia is well spoken of as an analgesic and antipyretic in the treatment of neuralgia, rheumatism, et cetera. It is not disagreeable to take, and may be had either in powder or tablet form, the latter being made in five grain size. It is described as not preventive of, but rather as affording relief to, existent pain. By the presence in it of the amine group it appears to exert a stimulating rather than a depressing action on the nerve centres and the system generally. If this be so, it possesses advantages over other coal-tar products." The concise endorsement of the *Edinburg Medical Journal*, which appeared in the January issue, is equally interesting:—"This is one of the many coal-tar products which have lately been introduced into medicine in Scotland. In doses of three to ten grains, antikamnia appears to act as a speedy and effective antipyretic and analgesic."

LIQUID HEMOFERRUM—(LIQUOR HEMOFERRI).

FREDERICK STEARNS & COMPANY'S Liquid Hemoferrum was introduced by them to meet the demand of physicians who often desire to prescribe Hemoferrum in the liquid form and in combination with a stimulant. It is a delicious cordial, each teaspoonful of which contains six grains of Hemoferrum, which is equivalent to two Hemoferrum Pilloids. Hemoferrum is that form of iron which exists naturally in the blood—in other words it is pure oxyhemoglobin. A full description of the product will be found in the monograph on "Oxyhemoglobin and Allied Products" published by the scientific department of Frederick Stearns & Company. Their circular on Hemoferrum contains a number of clinical reports from physicians who have used the article successfully in their practice. Both of these pamphlets will be sent free to physicians desiring them. Send mailing address to them with requests, and copies will be mailed promptly.

CLINICAL NOTES.

IN fermentative disorders of the stomach, and in corresponding forms of diarrhea, we consider listerine certainly a safe and also a valuable preparation. It is not at all unpleasant to take when properly diluted; especially, then, as an internal antiseptic do we recommend its use. It is, however, largely used as an external antiseptic, and its oily constituents give it a more healing and penetrating power than is possessed by a purely mineral solution. As a toilet antiseptic to use after a postmortem, or similar work, listerine, with its pleasant odor, need only to be tried to find a permanent place there. Listerine is a very attractive looking preparation, the liquid being crystal clear, with no sediment or undissolved oils whatever. The Lambert Pharmacal Company have introduced their product strictly through the profession, which attests their faith in its efficiency. —*The Maritime Medical News.*

DURING the past thirty-five years "Vin Mariani" has gained more ardent admirers among the medical profession throughout the world than any other preparation, and justly so, as there has never been a disappointment from its use. This is specially noteworthy on account of the attacks made from time to time against Coca (generally from interested parties), and on investigation it is shown that the many so-called coca wines are nothing more than shameful mixtures of cheapest, inferior wines, and variable solution of Cocaine unscrupulously sold as Coca wine, simply for mercenary purposes. It is in this manner that really useful drugs are brought into discredit. M. Mariani has gathered the written opinion, clinical notes, et cetera, of many thousand physicians from all parts of the world, showing the universal high opinion of practitioners who have subjected "Vin Mariani" to thorough test.

DOCTOR R. SAYRE HARNDEN, of Waverly, New York (*The Journal of the American Medical Association*, August 1, 1896), has been for the last twenty-five years a believer in the treatment of typhoid fever by intestinal antisepsis, and in the endeavor to prevent the fermentative, putrefactive, and septic conditions that result therefrom. During the past twelve years he has treated seventy-two cases without any fatality. During the past year he has used the Carbonate of Guaiacol in twenty cases with the most excellent results. In nine of these cases the disease was checked on the fourteenth to the seventeenth day after the initial chill. In many of these cases the symptoms for a few days were severe, indicating a grave type of the disease, but almost invariably a lower plane of fever, and a marked amelioration of all the symptoms was established, the tongue and skin becoming moist, dilirium diminishing or disappearing, tympany vanishing, and the patient sleeping and resting better. Doctor Harnden employed the Carbonate of Guaiacol in 1-6 grain tablets every hour through the day, and three or four times during the night, if the patient was often awake, for several days. The drug was continued every two hours during the day while the fever lasted. He observed the usual proportion of hemorrhages and relapses, and he does not believe that the antiseptic treatment prevents either. But he thinks that the relapses are not due to reinfection, but rather that the typhoid element is held in abeyance in some of the glands or adjacent lymphatics, manifesting itself after the subsidence of the first attack in a similar manner as do zymotic diseases that are held in abeyance during the latter period of pregnancy.

AFTER having found the therapeutic value of the "Compound Talcum," as a dermal application, it was a desideratum of the greatest importance to make this discovery useful. It took, for several years, all the leisure time of a busy pharmacist to bring this preparation in such shape as to make it salable for the pharmacist. In the year 1873 it was first ready to be sold in pharmacies. In 1874 it was put on exhibition at the meeting of the American Pharmaceutical Association in Louisville, Kentucky, and created there, on account of its originality and its indisputable scientific value, an unprecedented stir and commotion among the "great men," the "sages," the "autocratic rulers" of that scientific body. In the year 1875 the "Compound Talcum" created the same excitement at a meeting in Boston, and not less also at the Centennial Exhibition (1876) in Philadelphia. In the year 1880 the "Compound Talcum" was exhibited at a meeting of the American Medical Association in New York, and in 1890, by invitation of Doctor Wales, Surgeon-General of the United States Navy, the "Compound Talcum" was placed in the Museum of Hygiene, founded in the City of Washington, District of Columbia, for permanent exhibition.

REPEATED analysis of Lithia Spring Waters show frequent variation in character and composition. Lithia is not an over-abundant substance in nature. Its uses as a medicine are, however, of the highest importance in the alterative and eliminating functions of the body; hence it has received so much attention at the hands of medical doctors. Until the introduction of the effervescent lithia tablet, when the advantage of its use became so apparent, there was no recourse except in the employment of the Mineral Spring Waters, which were believed to contain this earthy constituent, but always in such uncertain quantity and proportion as to lack an essential of medicinal agents. This fact suggested to Messrs. John Wyeth & Brother, chemists of Philadelphia, the purpose of presenting the actual substance—Lithia—in the mere tangible, reliable form of a compressed tablet, which should instantly be wholly and freely soluble in water. In order to impart an invigorating activity to the drink, it has been made agreeably effervescent. Such tablets are now accessible to physicians in all the dispensing establishments, and are very largely used in medical practice with the utmost satisfaction. The Tablet of the Messrs. Wyeth extensively prescribed and used has medical properties which have been thoroughly tested. Pharmaceutically these Tablets are elegant in all the attainment of art.

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DECEMBER, 1896.

The Physician and Surgeon

A JOURNAL OF THE MEDICAL SCIENCES.

CONDUCTED BY
FREDERICK WHARTON MANN, M. D.,
AND
JOHN WILLIAM KEATING, M. D.

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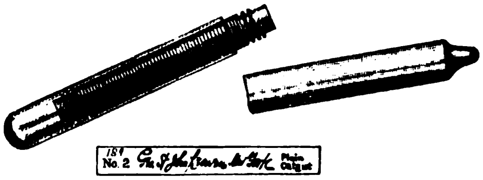

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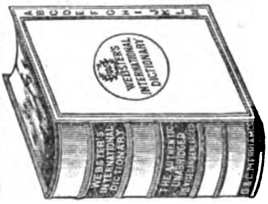

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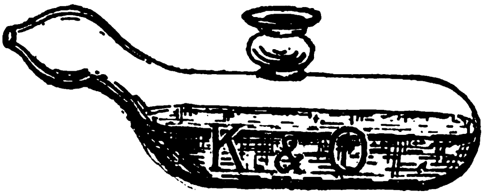

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PRACTICE.

HYDROZONE IN GASTRIC AND INTESTINAL DISORDERS.

A period of nearly twelve years has elapsed since I first began the clinical use of hydrogen dioxide, generally referred to at that time as the peroxide of hydrogen. In 1887 I published a paper giving a detailed account of several cases in which it had been employed by inhalation, but even then I was thirty years behind the report of Doctor (now Sir) Benjamin Ward Richardson, of London, who had made a thorough investigation of its antiseptic, detergent and healing properties. Notwithstanding the fact that this preparation had been known to the medical profession for that length of time it had achieved little or no reputation. This, however, may be explained by the fact that the discovery preceded the dawn of bacteriology. Indeed, I was one of the early contributors to medical literature relating to the clinical value of this product, and since that time I have published a number of articles, embracing practically every application, both medical and surgical, to which hydrogen dioxide is adapted.

In the present communication it is my object to direct the attention of the profession to its special value in the treatment of gastric and intestinal disorders. In gastritis, for example, there is no antiseptic which can be given with so much benefit as this remedy, because its effect is immediate, and even in considerable doses it is absolutely harmless. The same is true in regard to its employment in typhoid fever, cholera infantum, and Asiatic cholera. In the latter disease its efficacy has been thoroughly demonstrated by a number of well-known physicians, and its applicability in cholera infantum is well known to those physicians who have given careful attention to the most modern methods in the treatment of this class of cases.

The following brief notes will be sufficient to indicate the availability of this remedy in the treatment of the disorders already mentioned, although, in view of the fact that hydrozone is a more concentrated product, and withal a permanent solution, this latter remedy should have the preference. It contains at least double the volume of nascent oxygen which has heretofore been the standard for the medicinal peroxide of hydrogen.

In gastritis, either acute, subacute, or chronic, we have to deal with an unhealthy condition of the lining membrane of the stomach. The inflammation is attended with an increased output of mucus, which seriously interferes with the normal functions of the peptic glands. By the introduction of a small quantity of hydrozone, in the strength of one part to thirty-two parts of boiled or sterilized water, this objectionable mucus is at once destroyed by the action of the oxygen which is released, and the contents of the stomach remaining are promptly discharged into the small intestine. A patient suffering from gastritis should take at least half an hour before meals from two to four ounces of diluted hydrozone (one to thirty-two) and lie on the right side so as to facilitate the action of the stomach in discharging its contents. The antiseptic properties of hydrozone thus used are sufficient to destroy the microörganisms and leave the stomach in a healthy condition for the absorption of nutritive pabulum. All forms of fermentation are promptly subdued by the active oxidation resulting from the liberation of nascent oxygen. The patient is then in a condition to take suitable food, which should be nutritious and easily digested, liquids being preferred until the active symptoms have subsided. Later, small portions of solid food can be ingested, but all food stuffs of a starchy character must be thoroughly masticated, in order to secure the action of the salivary secretion upon the starch granules, breaking them up, and lessening the tendency to fermentation in the stomach. After taking a meal, a patient with gastritis should follow it with medicinal doses of glycozone, which contain, in addition to the nascent oxygen contained in hydrozone, a percentage of glycerin which favors osmosis and assists in re-establishing the functional activity of both the peptic and mucous glands of the organ.

In the treatment of cholera infantum, typhoid fever and Asiatic cholera, the same general plan should be adopted in dealing with the stomach, always bearing in mind the necessity for having the patient remain in the recumbent position and on the right side for at least half an hour after the ingestion of the solution. In addition, however, to the preliminary treatment of the stomach, the same solution (one to thirty-two) is used as an injection into the lower bówel, care being exercised to insure its introduction as high up as possible. This can be managed by having the patient lie on the left side, with the hips well elevated, and the employment of a long, flexible rectal tube. In this manner we secure and maintain an antiseptic condition in both the stomach and large intestine, the importance of which will be understood when we consider the large number of microörganisms which grow under these favorable conditions with such remarkable rapidity.

When deemed advisable, the solution introduced into the lower bowel may be combined with large quantities of either hot or cold water, which enables us to obtain the benefits of irrigation in addition to the antiseptic effects. These irrigations may be employed as frequently as deemed advisable by the medical attendant, but they will usually prove satisfactory if administered at intervals of four hours.

Although brief, it is believed this communication will prove serviceable to a large number of practitioners who have hitherto found serious difficulties in counteracting the mephitic influences of bacteria in this class of disorders, and the clinical virtues of the remedy being now so fully recognized, no one will hesitate to adopt the methods suggested, which may be conveniently carried out in addition to the usual routine treatment.—John Aulde, M. D., of Philadelphia, Pennsylvania, in *The New York Medical Journal.*

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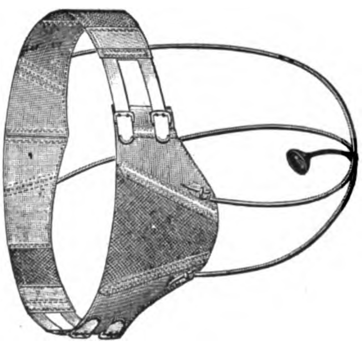

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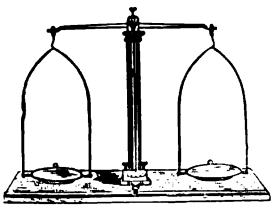

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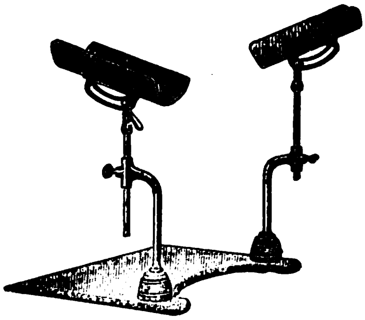

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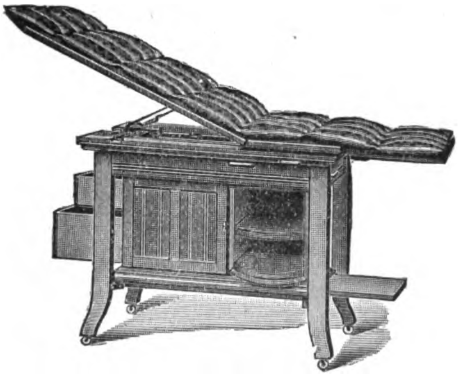

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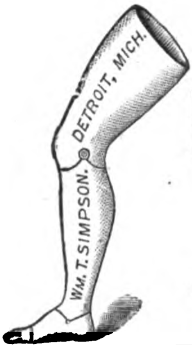
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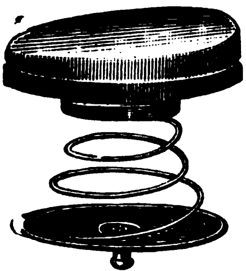

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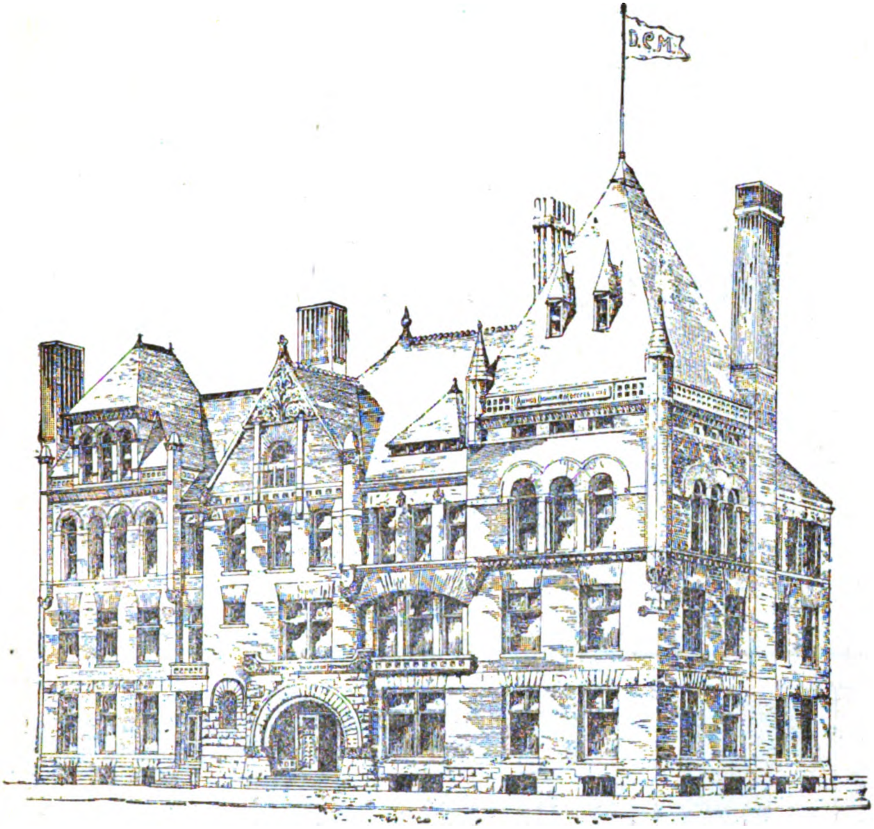

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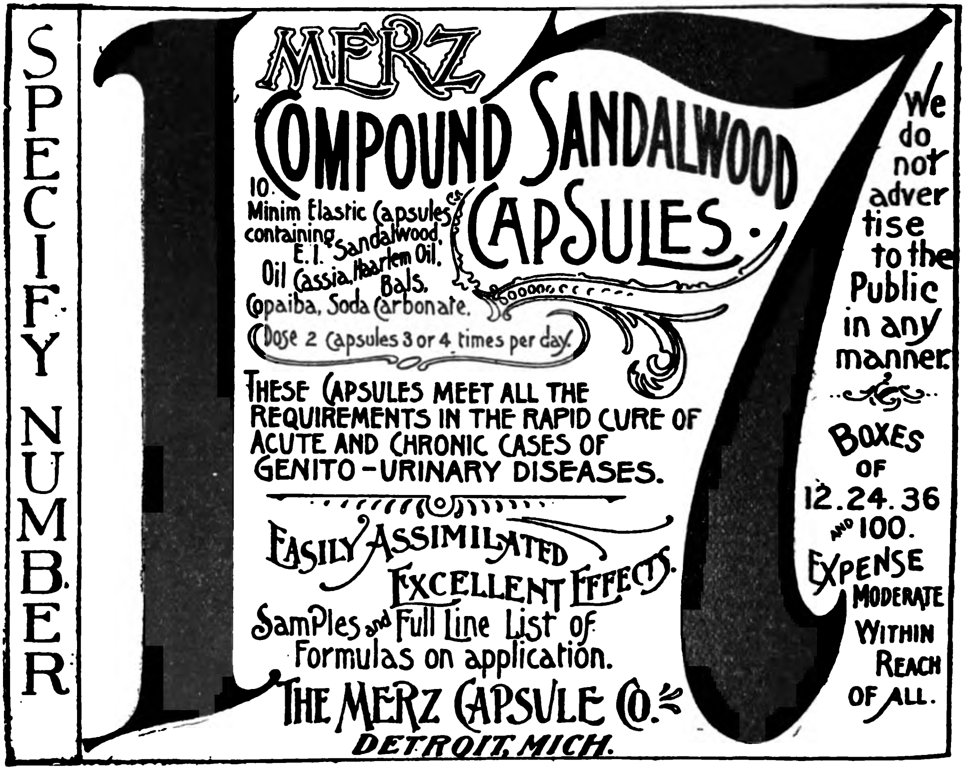

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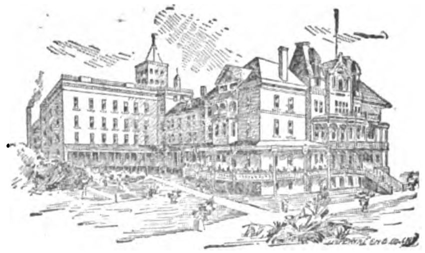

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